DOCUMENT RESUME

ED 059 747 LI 003 486

AUTHOR	van der Aa, H. J., Comp.; And Others
TITLE	Data Banks; Bibliography.
INSTITUTION	Netherlands Centre for Informatics, Amsterdam.; Netherlands Postal and Telecommunication Service.
PUB DATE	70
NOTE	61p.; (249 References)
AVAILABLE FROM	Studiecentrum Informatica, Stadhouderskade 6, Amsterdam 1013, Netherlands
EDRS PRICE	MF-$0.65 HC Not Available from EDRS.
DESCRIPTORS	Annotated Bibliographies; *Data Bases; Electronic Data Processing; *Information Sources

ABSTRACT

This 249 item, mostly annotated bibliography cites literature on the general themes of basic principles, hardware, software and application studies of data bases. The broad categories are principles, development possibilities, organizational design, bibliographies, economic aspects, data structure-design, file organization, programing, aviation, banks, education, government, industrial applications, information retrieval, medical databanks, management information systems (MIS), personal identification, postal and telecommunication services, science, urban planning, and privacy and security. Most of the citations are in English, though some are French and German. (SJ)

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data banks

Bibliography.

LI 003 486

abstracts of international literature

By

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INTRODUCTION

Many explanations can be given for the concept of Data bank.
In this respect a number of terms are used, all of them having more or less the same meaning.
With this in mind, the compilers of this bibliography have chosen to cover the widest possible field and to give as many abstracts as possible.

The reader may find literature on the following general themes:
basic principles, hardware and software, application studies and the problem of privacy.
In case some literature, known to the user, has escaped our attention, we kindly request any supplementary titles for a next edition.

We extend our thanks to everyone who has contributed, either indirectly or directly, to this bibliography.

The compilers.

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BIBLIOGRAPHY ON DATABANKS

PRINCIPLES

1

Aron,J.D. INFORMATION SYSTEMS IN PERSPECTIVE

Computing surveys, (New York); 1 (1969, 12) no.4 p.213 - 236

The purpose of the paper is to place the elements of information systems in their proper positions with respect to importance, content and utility. An information system is intended to provide information needed by the user in his business. Since that covers a broad set of situations, the paper is restricted to the general purpose aspects of file-oriented information systems, highlighting the trade-offs of importance to the user, the designer, the implementer and the operator. In particular, the management information system is discussed. In this paper, MIS is defined as "an information system which provides the manager with that information he needs to make decisions. "

2

Dijk,O. van. COMPUTER DATA BANKS AND HUMAN RIGHTS

Fayetteville (N.Y.), Manlius, 1970. 133 pp.

Thesis Amsterdam V.U.

This book is a study focusing on computer data banks dealing in data related to human beings. Titles of the contents are: The Privacy debate; Computer data banks functions; Human rights in the computer age; and The computer extension of man.

3

Hodge,B., and R.D.Hodgson. MANAGEMENT AND THE COMPUTER IN (USA) INFORMATION AND CONTROL SYSTEMS.

New York, etc., McGraw-Hill, 1969. XIII, 297 pp.

This book combines new and proven ideas to form a computer-based framework which one can use to define and analyse his "systems" requirements. This framework includes the basic elements of any management information and control system such as control theory, decision models, systems concepts and information flow. After defining and relating these computer-based procedures, the book shows, how to develop such system. In addition to specific how-to-do-it coverage, the book introduces many of the tools and methods available to the manager such as mathematical models, dynamic analysis and simulation in building management control systems and basic mathematic tools. The purpose of this book is to dispel the "air of mystery " surrounding the computer and examine it for what it is, a practical and efficient management tool.

4

Kanter,J., THE UBIQUITOUS DATA BASE CONCEPT

Data processing magazine (Philadelphia); 9 (1967.05) no.5 p. 28-32

The article gives an analysis of the central data base, which holds all relevant information on a company 's operation in one readily accessible file. Discussed are some basic management considerations in applying the

CDB concept. In particular is discussed: the Customers Information Subset;the problem resulting from the fact that there is a time dimension to information as well as a content dimension;the type of physical storage medium.

5

Lutz,Th., WAS IST EINE DATENBANK ?

Bürotechnik und Automation; (Baden-Baden) 8 (1967.05) no. 5 p. 250 - 258

Als Datenbank wird der Ort im Informationssystem bezeichnet,in dem alle Daten, die in einer abgeschlossenen organisatorischen Einheit auftreten, zusammengefasst sind. Es werden zwei Arten von Dateien erörtet:1. Die formattierte Datei: Begriffe - Datenbeschreibungstafeln- Multipler Zugriff - Querindizierung - Verketten und Verbinden; 2.Die unformattierte Datei: Retrieval - Problem - Wörterbücher.

6

Lutz,T., MANAGEMENTINFORMATION SYSTEMS (MIS); DIE DATENBANK UND IHRE PROBLEME

IBM Nachrichten (Sindelfingen) 18 (1968.12) no. 192 p. 457 - 464

In diesem Beitrag gehen die Verfasser auf die Datenbank und damit zusammenhängenden Fragen ein. Diese Ausführungen sind ein Versuch, die Diskussion um die Datenbank fortzusetzen und zwar Gleichermassen aus theoretischer Sicht und aus praktischer Erfahrung heraus. Gliederung dieses Artikels: Was ist eine Datenbank;Die methodische Problemstellung; Techniken der Datenbank; Was ist eine Adresse; Die Direktanfrage; Datenbankorientierte Systeme (PL/I,Information Management System, IBM/360 - MISDAS, Bill-of-Material Processor,Generalized Information System).

7

Nielen,G.C.J.F. en Stichting Studiecentrum voor Administratieve Automatisering:INFORMATIESYSTEMEN EN HET BESTUREN VAN ONDERNEMINGEN

Alphen aan den Rijn,etc,Samsom,1969,VI. 115 pp.

The author studies the impact of the computer on management information processing.The book is divided into four parts: management; management structures; information processing and meaning of computers; acceleration of information processing. The impact of the computer on the management structure seems to consist in concentrating unknown problems on people in the management organization; in accelerating reporting and the analysis of information about wellknown affairs; and in being able to handle complex procedures and models to make prognoses.

8

Remillon,R. DU TRAITEMENT FRAGMENTAIRE A LA GESTION INTEGREE

Informatique et gestion (Paris) (1968.10) no. 1 p. 73 - 82

L'auteur décrit très succinctement la mutation qui mène actuellement de l'ancienne gestion automatique fragmentaire àla gestion intégrée moderne. Il parle aussi des interactions entre la gestion généralisée à base d'ordinateurs et la structure et les procédures de direction des entreprises et donne un exemple d'application pratique de l'ordinateur à la gestion intégrée.

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9 3

Schultheiss,R.R. BAUSTEINE EINES ABRECHNUNGS-,KONTROLL- UND STEUERUNGSSYSTEMS (AKS)

R.D.O.; Rechnungswesen, Datentechnik, Organisation (Berlin); 16 (1967.01) no.1 p. 4-9

Das gesamte Unternehmen umfassende Informations-System ist in der Praxis noch nirgends verwirklicht. Sowohl in der BRD als auch in den USA bestehen jedoch einigewenige, relativ weit entwickelte Systeme. Damit die vielen anderen Betriebe nicht den Anschluss an eine wichtige Entwicklung verlieren, ist es notwendig, dass sie sich mit integrierten Systemen beschäftigen. In diesem Artikel werden einige Kernprobleme solcher Systeme beleuchtet. Zuerst wird ein Überblick der wichtigsten Begriffe für diese Art von Systemen gegeben, danach die Merkmale und Probleme integrierter Abrechnungs-, Kontroll- und Steuerungssysteme. Ausführlich wird der Beitrag von Mertens zur Lösung von Informationsproblemen in seinem Buch "Industrielle Datenverarbeitung " besprochen.

10

Sann,H., ELEMENTE EINES ALLGEMEINEN INFORMATIONSSYSTEMS

Industrielle Organisation; 38; (1969); 12, p. 511-518

Operationelle betriebliche Informationssysteme mit DV-Anlagen können viele Daten enthalten, die sich zu Management-Informationen aufarbeiten lassen. Die notwendige Vorbereitungsarbeit für selektive kurzfristige Informationen ist aber bei traditionell gewachsener Datenorganisation vielfach noch zu gross. Das allgemeine Informationssystem liefert auf das Ziel der raschen und vielseitigen Information ausgerichtete Datenorganisation, Such- und Zugriffstechnik sowie Einrichtungen für den Datenschutz und die allgemeine Verwaltung des Systems selbst. Es werden die Elemente einer solchen systemtechnischen Rahmenorganisation beschrieben.

11

Sinclair, J.M. BASICS OF AN INFORMATION SYSTEM

The office (Stamford, Conn.); 71 (1970) no.2,pp. 54-55,134

The development of a total management information system must employ highly selective means and methods. The word "total" is relative. The utilization of every possible combination from the data base is neither practicable nor desirable. On the other hand, it is necessary to select those bits of data which can be combined to satisfy the managers' specific information needs.

12

Vieweg,R. DATENVERARBEITUNG UND MANAGEMENT; Anpassung der Führungsmethoden an moderne Informationssysteme.

Frankfurt/, etc., Ullstein (1968) 173 pp. Bücher für Betrieb und Wirtschaft.

Die vorliegende Arbeit soll dazu beitragen, einen überblick über die neuen Führungsmethoden zu geben und die möglichen Auswirkungen fortschreitender Einsatztiefe der EDV auf die Leitungsfähigkeit aufzuzeigen. Nach einer Einleitung wurde behandelt: Kybernetik; Functionen des Managements; Kybernetische Systeme in der Unternehmung ; Moderne Methoden der Unternehmungsführung;Integrierte Informationssysteme. Am Ende findet man ein umfangsreiches Literaturverzeichnis.

13

Sturt,H., and R. Yearsly.(ed.) COMPUTERS FOR MANAGEMENT

London, Heinemann, 1969, VIII, 200 pp. Heinemann studies in management

The computer is potentially the central management tool in any sizeable business or administrative organization. The essential points of interest are, the uses to which computing power is put, where the computer fits in, and

how to make it work profitably. These are the themes of this book. The book is written by various authors, each a specialist in his field.

DEVELOPMENT POSSIBILITIES

14

Bauvin,G., L'INFORMATIQUE DE GESTION

Paris, Hommes et techniques, 1968, 346 pp.

L'auteur décrit d'abord quels sont les moyens de l'informatique, et notamment les moyens nécessaires au time sharing. Dans la seconde partie: l'informatique au service de la gestion, il montre ce que le traitement de l'information peut apporter au perfectionnement de la gestion des entreprises et des administrations. Dans la troisiéme partie: les structures, les hommes et les méthodes, sont étudiés les conséquences, sur le plan humain, de l'implantation de l'informatique, les structures à mettre en place, le profil des postes à pourvoir et enfin les méthodes de travail.

15

Canning,R.G., (ed.) THE LURE OF THE COMPUTER UTILITY

EDP analyzer (Vista,Calif.) 5 (1967.09) no. 9 p. 1-11.

With the rapid growth of time shared computing, the concept of the "computer utility" is coming more into focus. In fact evidence is mounting that there will be a variety of types of "utilities". In this article the progress of some of the main types of these new utilities are discussed; the major problems they face in their development and factors that management must consider in connection with using them are determined.

16

Canning,R.G. (ed.) COMPUTER UTILITIES: NO EASY ROAD AHEAD

EDP analyzer (Vista,Calif.) 5 (1967.10) no. 10 p. 1-14

In this article some of the major problem areas that are associated with the development of computer utilities are analyzed. It is stated that these areas will influence the development of these new entities. The problem areas discussed are : 1. The FCC (Federal Communications Committee) investigation, and the question of regulation; 2. Communication problems; 3. Security and privacy of data; 4. The cost of services; 5. Some legal considerations ; and 6. Some current technical difficulties. Conclusion : in spite of the many problems and challenges the computer utilities are going to grow rapidly and will represent about one-half of the computing capacity in the United States by 1975.

17

Cooke,M.J. THE DATA BASE REVOLUTION

Systems procedures journal (Cleveland) 19 (1968.03/04) no. 2 p. 20-22

The data base is a central bank or file containing information about a business in readily accessible form. Each type of information is total - it encompasses many pieces of data related to many functional areas of the

business in a single record. All input transactions enter the system at a single point ; output reporting should be done on an exception basis.

18

Cristini, G. UN ATOUT POUR LA REGION : L'INFORMATIQUE

Zéro.un. informatique - actualités (Paris) (1968.11) p. A1 - A2

L'ordinateur n'apporte pas de solution miraculeuse, mais il entraine une transformation radicale des structures industrielles et économiques, notamment en permettant de décentraliser les responsabilités au niveau des unités de production, grâce à une meilleure circulation de l'information dans tous les sens et à tous les niveaux. Le télétraitement permet d'ajouter à cette décentralisation hierarchique une décentralisation géographique. Former les hommes et leur donner confiance dans l'avenir d'une informatique régionale, voilà le premier atout pour gagner dans le cadre de la région, le pari informatique.

19

Crutcher, W.C. COMMON CREATION AND OWNERSHIP OF MASSIVE (USA) DATA BANKS

Computers and automation (Newtonville); 18 (1969.05) no. 5 p. 24 - 26

Data banks, in the present context, mean files of machine-readable information which may be manipulated by an electronic digital computer, generally for the purpose of retrieving part of the information and displaying it in man-readable form. The spectre of complete government ownership and control of such files of information is repugnant to some. Yet the obvious economic power which would reside in such files absolutely requires application of government control through well-known public utility concepts. Furthermore,the economics and new uses generated by natural competitive forces and private investment should be utilized. It is felt that the concept of co-op data bases offers a practical solution to these problems.

20

Derathé, P. et A.de Lamazière. COMMENT CHOISIR , ORGANISER ET LANCER UN SYSTEME INTEGRE ?

Zéro.un.informatique (Paris) (1968.04) no. 21 p. 29 - 36

Cet article décrit une méthode (développée par la Compagnie Générale d'Organisation, et déjà mise en oeuvre dans plusieurs entreprises) répondant aux impératifs de la machine et de l'entreprise et consistant essentiellement en une définition progressive du système.

21

Dickson, G.W., MANAGEMENT INFORMATION DECISION SYSTEMS : A NEW ERA AHEAD ?

Computer digest (Detroit, Mich.) 4 (1969.03) no. 1 p. 3 - 6

Management is on the verge of entering a new era.A new technology is being developed in order to cope with the problems of administering the monolithic and complex organizations that have emerged over the past decade. It is safe to say that we are just beginning to understand the ways the computer can be used to assist in the managerial decision process, either by providing better information or by expanding the decision horizons by using quantitative techniques - or both. In view of the research and training activity of the universities, coupled with increased applica-

tion of and experience with in management information - decision systems by organisations, it is logical to assume that notable developments in this field will be forthcoming.

22

Fimat,J.P. et G. Renard LES BANQUES D'INFORMATION .I.

Informatique actualités (Paris) (1968.12) no. 3 p. 50 - 55

L'avénement de l'informatique a modifié les données de base.L'ordinateur rapide dans la recherche et le tri des données peut recevoir celles - ci à distance et les communiquer de même; il est systématique et son accès est facile. On détient bel et bien là une possibilité de gestion centralisée les informations dont la collecte et la diffusion peuvent être largement decentraliseés. L'article comporte les parties suivantes : Qu'est-ce qu'une banque d'information; Vers un fichier unique interministériel ? ; L'example japonais; moins de double emplois, plus de sécurité; Pour des décisions mieux préparées; Garantir la fiabilité prévoir la comptabilité; et un exmple: Le fichier d'utilisation des sols du ministère de l'équipement.

23

Gruenberger, F. (ed.) CRITICAL FACTORS IN DATA MANAGEMENT

Englewood Cliffs, Prentice-Hall,Inc., 1969. 146 pp.

Papers read at the symposium on Critical Factors in Data Management,Los Angeles, 1968, march 20-22. Contents: Sherwood,F.H. - Critical factors in data management; Kleinrock,L. - Time sharing systems: Analytical methods; Bachman,Ch.W. - Data base management: The keystone of applied system architecture; Fry,J. and J.Gosden - Survey of management information systems and their languages; Pirtle,M., - Systems design of a computer for time sharing applications in Hinsight; Arden,B.W. - Time sharing software : What's good and what's bad; Verzuh,F.M. - Data management on Wall Street; Leiboff,T.N. - Peripheral equipment for data management; Irwin,M.R. - Government policy implications in data management; Peters,B. - Large data base mobilised for service; Westervelt,F.H. - Communications and data transmission; Postley,J.A. - - General purpose systems: The MARK IV file management system; Prywes,N.S. - Structure and organisation of very large data bases.

24

Hanold, T. MANAGEMENT INFORMATION SYSTEM : A CRITIQUE

Internal auditor (New York) 26 (1969.09/10) no. 5 p. 52 - 57

In this article a company president describes the impact of MIS in his organisation. Concluding his article he writes, that we can delegate executive authority and allow for its exercise without intrusion because of our confidence; that in a MIS environment: the manager has a body of data immediately and totally accessible; the MIS provides both the manager and Executive Office with a programmed system for currently processing and reporting data and also a sufficient stock of mathematically structured tools for discovering the actual historical trends and analyzing the current condition of his business.

25

Neubert,H. DATENBANKEN UNTER EINSATZ VON EDV-ANLAGEN ALS INFORMATIONSMITTEL FÜR WIRTSCHAFT UND VERWALTUNG
Handbuch der maschinellen Datenverarbeitung (Stuttgart) (1969.07) no. 28 4 pp.

Seit einigen Jahren wird am Aufbau von Datenbanken gearbeitet. Dabei hat sich gezeigt,dass unterschiedliche Aufgabenstellungen nicht nur das Spektrum der Daten von Datenbanken,sondern auch ihren Aufbau und die Art ihre Wirkungsweise entscheidend beeinflussen; zu unterscheiden sind: Archiv-,Identifikations und Führungs- Datenbanken. Kurz wurden die Archiv-Datenbanken und Identifikations-Datenbanken charakterisiert. Der Aufbau und die Benutzung, die maschinelle Ausrüstung und Wirtschaftlichkeitsfragen der Führungs-Datenbanken werden besprochen.

26

Rhind,R. MANAGEMENT INFORMATION SYSTEMS; some dreams have turned to nightmares
Business horizons (Bloomington,Indiana) 11 (1969.06) no. 3 p. 37 - 46

In this article Rhind explores the value of management information systems. He begins by citing some limitations of computer-based MIS in providing the information needed by managers for making decisions.Even though the author illustrates that on certain levels of management a computer-based information system can be of great value, he nevertheless contends that many claims for computers are founded.In addition, Rhind feels,that despite great strides made in perfecting computer information systems, the responsibility for judgment still remains with management.

27

Sollenberger,H.M. MAJOR CHANGES CAUSED BY THE IMPLEMENTATION OF A MANAGEMENT INFORMATION SYSTEM
New York, National Association of Accountants (1968) 115 pp.

This monograph presents the research findings resulting from the author's dissertation. It deals with concepts, philosophies,organizations,developments and problems of information management. Changes and problems affecting the status of information handling in firms actively examining their communications network cannot be uniformly specified. General conclusion can be drawn about major modofications observed. This studie has emphasized the changes in information services and the impacts those changes have had on management behaviour and structure in the firms studied.

28

Sollenberger,H.M. MANAGEMENT INFORMATION SYSTEMS IN THE REAL WORLD
Management services (New York) 6 (1969.11/12) no. 6 p. 30 - 37

The author feels that much of the tinsel has worn off the image of the comprehensive,company-wide management information system, promised a few years ago as the panacea for nearly all management problems. Many companies,he finds, have had serious difficulties in transforming theory into practice; the results have been reassessment, retrenchment and reorganization. Nevertheless,he asserts,even though the slogans have been abandoned,the basic concepts are very much alive.

29

Stern,H. INFORMATION SYSTEMS IN MANAGEMENT SCIENCE
Management science (Providence,Rhode Island) 15 (1969.02) no. 6 p. B-325 - B-330

Most companies are getting a good return on their computer investment just by handling the transaction portions of the business. The companies that have gone far beyond the transaction business have done so in specific areas,where the potential profitability is relatively obvious.Those companies that have installed advanced applications that are considered exotic have been able to do so because of the special circumstances created by individual needs.Giving the description of the more advanced computer applications the author has shown how specific circumstances have made these applications possible.

30

Strassburg,B. THE MARRIAGE OF COMPUTERS AND COMMUNICATIONS:SOME REGULATORY IMPLICATIONS
Jurimetrics journal(Chicago) 9 (1969.09) no. 1 p. 12 - 18

Few products of modern technology have as much potential for social,economic and cultural benefit as does the multiple access computer. With its huge capacity and versatility and in combination with communications - also in the forefront of the technological revolution - the computer is a storehouse of virtually untapped new and improved services to the public.The author tries to identify some problems that are likely to attend the rise of local, regional and perhaps national computer services. He discusses market entry,communication costs, and information privacy as three areas of potential, if not actual, issues incident to the "computer utility" concept.These are by no means the only issues. There will be others. But, whatever the issues, both the industry and the Commission have equally important roles to play in meeting the challenge of the new technology.

31

Vieweg,R. UNTERNEHMENSLEITUNG UND FORTGESCHRITTENE DATENVERARBEITUNG
ADL-Nachrichten (Kiel) 13 (1968.1) no. 50 p. 13 - 16

Der Aufbau eines Management - Informations- Systems ermöglicht es, die Leitung eines Unternehmens zu straffen. Die grossen Schwierigkeiten bei der Errichtung eines derartigen Systems liegen nicht auf technischem Gebiet, sondern im organisatorischen Bereich. Nur durch klare Formulierung der Unternehmenszielsetzung und der Informationswünsche und durch aktive Miteinschaltung der Unternehmensleitung beim Aufbau ist es möglich,die durch die Technik gegebenen Vorteile der Datenverarbeitung auch sinvoll zu nutzen.

32

Zannetos,Z.S. TOWARD INTELLIGENT MANAGEMENT INFORMATION SYSTEMS
Industrial management review (Cambridge) 9 (1968,spring) no. 3 p. 21 - 37

The purpose of this presentation is to venture a little into the future and explore some thoughts on the new generation of management information systems for planning and control. This is done by describing 1. the type of information management needs for efficient planning and control 2. the stages through which a system must go to acquire the necessary characteristics and intelligence to aid management in its planning and control activities 3. the author's efforts to design information and control systems that have desired attributes and intelligence. While many of the ideas expressed are operational, many others, especially those that refer to associative information systems and the control of the planning process, are speculative.

ORGANISATIONAL DESIGN

33

Institute of Cost and Works Accountants,The THE DESIGN OF A MANAGEMENT INFORMATION SYSTEM
London,Bros,1969, 56 pp. Management information systems and the computer; vol. I

This is the first of a series of discussion papers published by the Institute, which describes the design of computer information in the context of management needs. It thus provides the foundation for the succesful application of electronic data processing, for any application which may be attempted. Appendix I gives a schematic example of a management information system and appendix II gives specifications for a management information system.

34

Data processing monograph series : MANAGEMENT INFORMATION SYSTEMS

Detroit (Mich.), American data processing (1968) 87 pp.

1. Concept and design of integrated management information systems; by W.Henry Mill and J.H. Wright

2. Inception, design and implementation of a management information system; by D.A. Lewis

3. Single information flow philosophy; by A.L. Baumann jr.

4. Aesop : a general purpose approach to real-time direct access management information systems; by J. Spiegel, J.K.Summers and E.M.Bennet

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35

MANAGEMENT INFORMATION SYSTEMS AND THE COMPUTER

London, The Institute of Cost and Works Accountants, September 1967, 56 pp.

Part I. The design of a Management Information System

chapter IV: The impact of the computer, p. 25 - 30

Part II. Computer application pp. 86

After a discussion on the data-bank school and the systems school, a solution is given which lies somewhere between the two and can best be described as problem oriented rather than solution oriented.

36

MIS DESIGN AND IMPLEMENTATION : THE PROJECT PLAN

Magazine of bank administration,The (Park Ridge III.) 45 (1969.04) no.4 p. 12 - 14

Almost any skilled information systems technician can design an MIS. However, only a team working according to a well designed plan can perform the required series of operations without seriously impairing the business's daily performance. It is for this reason that the development of a practical, realistic MIS development and implementation plan is perhaps the most complicated single task of any MIS program. While the development of such a plan is not within the scope of this brief discussion, it is possible for the author to discuss a number ot strategies and problems that have been helpful in planning some MIS programs.

37

Beged-Dov A. AN OVERVIEW OF MANAGEMENT SCIENCE AND INFORMATION SYSTEMS

Computer digest (Detroit, Mich.) 2 (1967.12) no. 12 p. 4 - 6

This article relates early developments in managements thought to modern organization views; it discusses decision making, the systemsconcept, and man-machine systems; it identifies the overall goals which an integrated information system should serve, and it suggests an approach to be followed by information systems planners.

38

Bensahel, J.G. (ed.) MANAGEMENT INFORMATION SYSTEMS

An international progress report; selected presentations from the proceedings of the second annual international EDP conference; Milan, 1966

Bruxelles, Management Centre Europe (1967) 78 pp.

A cross-section of talks at a conference at which managers in the forefront of development and application of ADP came together to present a survey of current thinking and future possibilities. Knowledge of ideas of technical managers, management consultants and operating executives; the subject matter ranged from specific case studies of ADP

applications to broad looks at man's total relationship to his new and increasingly vital partner, the computer. Subjects of discussion: Designing the enviroment for decision-making and management. Computers in the corporate organization chart. Organizing and staffing for computers activities. Software and real time systems. How a major data processing manufactures uses ADP. Progress in management science and operational research. Planning and implementing, management information system. Progress in remote computing and real time systems.

39

Blumenthal, S.H. MANAGEMENT INFORMATION SYSTEMS

A framework for planning and development.

Englewood Cliffs, Prentice-Hall, 1969, 219 pp. Bibliography p. 209-213

Prentice-Hall series in automatic computation

This book emphasizes systematic planning; it is a scientific approach to determining an organization's information needs and developing the kind of system that is responsive to sound decision making. Coverage includes information systems perspective, systems taxonomy, systems development framework, plans and projects, organizational considerations, system economy and feasibility, technical strategies and the management of change.

40

Christen,H. ORGANISATION DES INFORMATIONSWESENS

Bürotechnik und Organisation (Baden-Baden); 17 (1969.02) no.2 p. 96 - 103

Die zur Planung und Entscheidung notwendigen Daten in der richtigen Zusamensetzung, zum gewünschten Zeitpunkt und mit angemessenem Aufwand bereit zu stellen, ist der Zweck des Informationswesens. Der Verfasser dieses Artikels nennt die Aufgaben und Voraussetzungen des Informationswesens. Er erläutert, welchen Anforderungen ein Informationssystem gerecht werden sollte, zeigt, wie man es stufenweise entwicklen kann und gibt einige Regeln für die Planung und Einführung eines Informationssystems.

41

Enger,N.L. PUTTING MIS TO WORK (Managing the management information system)

New York, American Management Association,Inc. 1969 255 pp.

1. A challenge for management
2. System design
3. Error detection, andit and security
4. Software capability
5. Hardware reliability
6. Manufacturer support
7. Management responsibilities
8. The fourth generation
9. Summary, glossary, supplementary reading, Index

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Ihne,J. GEDANKEN ZUR EINFÜHRUNG EINES MANAGEMENT INFORMATIONSSYSTEMS IN INDUSTRIEBETRIEBEN

Zeitschrift für Datenverarbeitung (Köln); 7 (1969.10/11) no. 7 p. 460-464

In diesem Artikel wird der Versuch unternommen, anhand eines Beispiels aus der Praxis die Möglichkeiten und Grenzen eines Management-Informationssystems aufzuzeigen und zu demonstrieren, inwieweit der Hersteller von EDV-Anla-

gen zum heutigen Zeitpunkt dem Kunden bei der Verwirklichung dieses Projektes helfen kann. Das besprochene System des in diesem Artikel skizzierten Anwendungsbeispiels wird vornehmlich im Fertigungsbereich eingesetzt. Die Gliederung dieses Artikels ist wie folgt : Grundsätzliche Überlegungen; Management-Informationssysteme in der Praxis,(die Ausgangssituation; Hardware-Konfiguration; die verwendete Software; Produktionsplannung und steuerung mit Hilfe des Systems);Abschliessende Würdigung.

43

Kalscheuer,H.D. INTEGRIERTE DATENVERARBEITUNGSSYSTEME FÜR DIE UNTERNEHMENSFÜHRUNG

Berlin, de Gruyter (1967) 121 pp.

Die Auswirkungen integrierter Systeme auf die Funktion der Unternehmungsführung und die angewandte Betriebswirtschaftslehre werden untersucht. Das Buch gliedert sich in drei Haupteile: Wesen und Ziele integrierter Systeme - Der Aufbau integrierter Datenverarbeitungssysteme - Bedeutung integrierter Systeme für die Unternehmungsführung. Literaturverzeichnis S. 109 - 119.

44

Langefors,B. MANAGEMENT INFORMATION SYSTEM DESIGN.

IAG journal (Amsterdam) 2 (1969) no.4 p. 7 - 17

Information systems work methodology must contain the following methodology categories: 1. which degree of ambition 2. which strategy of implementation 3. which information 4. how is the system to be designed or structured 5. how is the data processing and handling equipment to be chosen and matched to the system design. These five method categories are described. Specific methods and problems associated with the first 4 distinct system work categories are discussed; a) calculation for ambition specification b) strategy of project implementation c) information analysis d) system structuring.

45

Langers,F. and R. Steinbock . KONZEPT FÜR DIE REALISIERUNG EINES MANAGEMENT-INFORMATIONSSYSTEMS (MIS) MIT HILFE EINER AUTOMATISIERTEN DATENVERARBEITUNG (ADV).

Elektronische Datenverarbeitung (Braunschweig) 10 (1968.10) no.7 p. 313 - 321

Der organisatorische und sachliche Aufbau eines brauchbaren Management-Informationssystems (MIS), das auf die herkömmliche Hierarchie eines Unternehmens ausgerichtet ist, wird dargestellt und die Gliederung einer zentralen Datenbank, die in Speichermedien mit direktem Zugriff relevante Daten für Informationen bereithält,skizziert. Beispielhaft wird die Realisierung eines MIS aufgezeigt, das die wichtigsten Daten aus den jeweiligen Sachgebieten in tabellarischer Form für die einzelnen Ressorts der Unternehmensleitung präsent hält und auf Anfrage oder periodisch übermitteln kann.

46

Losty,P.A. DESIGNING A MANAGEMENT INFORMATION SYSTEM (MIS)

Computer bulletin,The, (London); 13 (1969.05) no.5 p. 142 - 147

This paper deals with two separete, but related topics: Management Information System (MIS) and Systems Design. The former deals with what the analyst is trying to design and states some significant differences between MIS and other data processing applications. System design is concerned with how to design MIS and is of general application to the design of any system. Insufficient attention to methodology results in a waste of resources in

the system design team and often in systems which meet their objectives in an unsatisfactory manner.

47

Lutz,T. DIREKTANFRAGEN AN EINE DATENBANK

Bürotechnik und Automation (Baden-Baden) 9 (1968.3) no. 3 p. 96 - 100

In der BRD werden in zunehmendem Masse Datenbänke aufgebaut, die es ermöglichen, Auskünfte über gespeicherte Daten durch Direktanfragen mittels Datenendstationen zu erhalten. Folgende wesentliche probleme sind in diesem Beitrag gelöst worden (mit Beispielen) : Der Aufbau der Anfragen, die Abgrenzung der Anforderungen, die an Datenbänke gestellt werden müssen und die Auswahl des zweckmässigsten Aufbaus von Antworten.

48

McDonough,A.M. and L.J.Garrett MANAGEMENT SYSTEMS

Working concepts and practices (Homewood III.) Irwin. (1967) XVIII 325 pp.

In this book the authors have attempted to present a down-to-earth, relatively non-technical exposition in which certain of the major developments in management systems can be studied. They have chosen to emphasize a practical frame work for a threepronged attack on the problems of the design of management systems. The approaches of 1. management problem definition, and 2. manpower planning and control, are blended with the approach of 3. systems design and data processing.

49

Moll, R.E. THE DESIGN AND IMPLEMENTATION OF A MANAGEMENT INFORMATION SYSTEM

Magazine of bank administration,The, (PARK RIDGE?III); 44 (1968.10) no. 10 p. 22 - 63 (6pp.)

This article deals with designing and implementing a management information system and thus the assumption is made that the bank has passed the initial decision-making stage. Several techniques of implementation planning are available. The number of networks drawn depends upon the organisational level to which the plan pertains. There are three items that will require strict attention : the first is the general concept of the installation. This concerns the selection of hardware and software or whether to choose a stand-alone,, multi-programming or time-sharing approach. Second is the amount of required core memory that can be committed.The third involves the capacity of the data channels to meet the needs.

50

Molnar,T.P. PLANNING AND IMPLEMENTING INTERNATIONAL DATA NETWORKS

Information Processing 68; Proceedings of the IFIP conference (1968) 2. p. 1267 - 1272

With the growth of multi-national enterprises, the computer-based information system is becoming a key tool for effective management. The planner of such an international data network has to be familiar with the communications enviroment, tariffs, services, etc. available in the respective countries and should design a system that optimizes these various parameters.

51

Nicholson,C.H.Jr. BUILDING DATA BANKS FOR MULTIPLE USES

Systems and procedures journal (Cleveland); 19 (1968.05/06) no. 3 p. 18 - 22

The data bank concept is a promising approach to the effective management of stored computer data; however,there are a number of planning considerations that relate to file design problems in the development of data banks. Seve-

ral criterie will facilitate determination of the size and structure of the data bank and they will also facilitate selection of the optimum approach for organizing the data bank to take full advantage of the capabilities of modern computer memory devices.

52

Renard,B. LES BANQUES D'INFORMATIONS

Informatique actualités (Paris), (1969.01) no. 4 p. 36 - 41

Le concept général d'un banque d'informations est trés simple. Par ailleurs, les applications possibles de telles banques sont très nombreuses et d'un interêt évident. Pourquoi, dans ces conditions, n'y-a-t-il qu'un faible nombre de banques en fonctionnement, ou même en projet ? L'auteur essaie dans cet article, de donner à cette question une rèponse partielle en considérant les aspects techniques des banques d'informations, et en montrant comment nombre de problémes, résolus depuis peu, devraient maintenant faciliter le développement de banques nouvelles.

53

Trotter,W.R. ORGANIZING A MANAGEMENT INFORMATION SYSTEM

S.A.M. advanced management journal (New York) 34, (1969.04) no. 2 p. 40 - 46

It is possible to develop a Management Information System or any other business system in several different ways. This article describes a case study of a Management Information System that is being successfully installed. The system is being developed in each of the operating divisions of the company as well as in the company headquarters. What are the objectives of the study of the Management Information System ? The overall objectives of the study are to develop a reporting philosophy for the company and to determine the essential information required to effectively administer operations by all levels of supervision.

54

Vásárhelyi,P. A NEPSZABADSAGI TERVEZEST KISZOLGALO ADATBANK LETREHOZATALANAK KERDESEI

Informacio elektronika (Budapest) 4, (1969) no. 4 p. 302 - 306

In the course of developing a data bank - which would serve as information basis for the national economic planning - the following prime factors have to be taken into consideration : the amount of data to be stored, number of the level of the hierarchical interrelations and characteristics of the retrieval process. At the input, efforts are made to minimize the preparatory work and to eliminate the time - consuming coding operation. Therefore data identifications are given in the original spoken language and machine vocabulary is used. Within this vocabulary we provide for possibilities of multidimensional retrieval in such a way, that each data represents part of several hierarchical reference-systems. This complex system of interrelations can be realized by using the so called "chain-principal".

55

Anonymous: CLASSIFIED BIBLIOGRAPHY ON BIBLIOGRAPHIC DATA BASE INTERACTION,COMPATIBILITY AND STANDARDIZATION
PB-183 608, (1969.03) 73 p.

The report to the National Agricultural Library(NAL) consists of bibliographic references which were collected to provide background data for the technical tasks which are being conducted as part of a study for NAL on utilization of bibliographic data bases. The bibliography is set up to correspond with each technical task and includes references on bibliographic data bases (including the nine data bases surveyed) modes of interaction, software (including available software packages) vocabulary, format problems, standardization, query translation and search strategy and file organization.

56

BIBLIOGRAPHY ON MANAGEMENT INFORMATION SYSTEMS (provisional)
Amsterdam, Netherlands ADP Research Centre ; Library and Documentation Department, 1969. 10pp.

57

Duggan,M.A. COMPUTER UTILITIES - SOCIAL AND POLICY IMPLICATIONS
A reference bibliography and a supplement A.
Symposium on the computer utilities - Implication for higher education, held at Manchester,New Hampshire (USA) on May 5 - 7th, 1969
The first part of this bibliography (first published in "Computer reviews", October 1968) consists of 17 pp. and the Supplement A (May 1969) consists of 61 pp.

58

Lindemann,P.; Nagel,K. LITERATUR ZU BETRIEBLICHEN INFORMATIONSSYSTEMEN
Elektronische Datenverarbeitung, 11; (1969) 7, p. 315 - 322

Erfasst wurde in der Bibliographie insbesondere die einschlägige deutschsprachige und englischsprachige Literatur. Da der Problemkreis der betrieblichen Informationssysteme in verschiedene Bereiche (z.B. Unternehmensführung, Systemtheorie, Kommunicationsforschung, Kybernetik usw.) hineinreicht, ist das Gebiet schwer abzugrenzen. Es wurde jedoch eine Auswahl in der Weise getroffen, dass in die Bibliographie vorwiegend nur solche Arbeiten aufgenommen wurden, die für die theoretische Konzeption und den praktischen Aufbau von betrieblichen Informationssystemen von unmittelbarem Interesse sind.

ECONOMICAL ASPECTS

59

Arvas,C. JOINT USE OF DATA BANKS
Economic computation and economic cybernetics studies and research (Bucaresti);(1969) no.4 p.113-138

The development of time-sharing systems and data communication technique has led to the concept of computer utility: the same data base and processing facilities of large electronic computers are shared by many users for

many different purposes. In this paper the following questions are briefly discussed : decisions about what data should be included in the databank - definition of elementary units and description of data,- design of the physical file system,- storage media and different ways of processing,- linking and record matching,- communications machine to machine and man to machine,- information protection.

60

Deckard,N.S. CAPTURING THE DEVELOPMENT COSTS OF AN INTEGRATED MIS

Journal of systems management (Cleveland) 21, (1970.01) no.1 p. 14 - 17

Proponents of an integrated management information system claim that the benefits more than offset the costs. Benefits generally fall into four categories: information timeliness, better use of manpower, improved management planning and effective decision making. But, evaluating the benefits and collecting and idetifying costs can be difficult. Here is one technique for gathering and analyzing cost data during the development of a management information system.

61

Koch,W. DATENBANK UND INFORMATIONSSYSTEM

Bürotechnik und Automation, 10, (1969.05) no. 5 p. 268 - 270

Ab einer gewissen Grösse besitzen kommerzielle Rechenzentren heute eine Datenbank, da dies einfach zum guten Ton gehört. Diese Entwicklung wird beschrieben. In diesem Artikel versteht man unter einer Datenbank die Gesamtheit aller Grunddaten, die ein Informationssystem benutzt, um zu jedem beliebigen Zeitpunkt schnell den neuesten Stand aller betriebwirtschaftlich relevanten Informationen über das Unternehmen abzuleiten. Weiter wird das Informationssystem (Monatsabschluss,permanente Abrechnung,Wirtschaftlichkeit) und die Voraussetzungen und Folgen der Entwicklung der Datenbank behandelt.

62

McKinsey & Company UNLOCKING THE COMPUTER'S PROFIT POTENTIAL

Computers and automation (Newtonville) 18, (1969.04) no. 4 p. 24 - 33

Many otherwise effective top managements are in trouble with their computer efforts because they have abdicated control to staff specialists. Only managers can manage the computer in the best interests of the business. The companies that take this lesson to heart today will be the computer profit leaders of tomorrow. In terms of technical achievement, the computer revolution in US business is outrunning expectations. In terms of economic payoff on new applications, it is rapidly losing momentum. Such is the evidence presented by a recent study by McKinsey & Company of computer system management in 36 major companies. The companies studied represented all levels of achievement and experience with computers in 13 different industries. This article gives a survey of this study.

63

McKinsey & Company UNLOCKING THE COMPUTER'S PROFIT POTENTIAL

(a research report to management); New York, McKinsey (1968) II. 42 pp.

This issue deals with a report of a study of computer systems management in 36 major companies.The findings indicate that computer efforts in all but a few exceptional companies are in real, if often unacknowledged, trouble. Faster,costlier, more sophisticated hardware; larger and increasingly costly computer staffs; increasingly complex and ingenious applications; these are in evidence everywhere. The developments that have shaped the report are described, indicating some of the future opportunities open to companies that take timely action to solve the problems.

64

Wild,J. INPUT -, OUTPUT-, UND PROZESSANALYSE VON INFORMATIONSSYSTEMEN

Schmalenbachs Zeitschrift für betriebswirtschaftliche Forschung (Köln und Opladen) 22 (1970.01) no.1, p. 50 - 72

Diese Betrachtungen wenden sich nach einer kurzen Analyse der Ertragsbewertungsproblematik in erster Linie den Fragen der Kostenbewertung zu. Es wird dann versucht, ein geeignetes analytisches Instrumentarium zu entwickeln, mit dem einmal die Planung integrierter Management = Informations = Systeme möglich ist und das zum anderen einen Informationskostenrechnung zwecks Kostenbewertung von Informationen, Informationsprozessen und systemen erlaubt. Behandelt werden: Kosten-und Ertragsbewertung von Informationen; informationelle Input und Output - Analyse.; Informationelle Prozessanalyse; Zusammenhang und Auswertung der Matrizen und Auswertungsbeispiel.

65

Wild,J. INFORMATIONSKOSTENRECHNUNG AUF DER GRUNDLAGE INFORMATIONELLER INPUT-,OUTPUT- UND PROZESS ANALYSEN

Schmalenbachs Zeitschrift für betriebswirtschaftliche Forschung (Köln und Opladen)22 (1970.04) no.4,p. 218 - 240

Ein Ermittlungsmodell für die Informationskostenrechnung wird formuliert. Gründlage für die Ermittlung dieser Kostenbestandteile bildet die Input-, Output- und Prozessanalyse des Informationssystems, wie sie in Heft 1 (1970) dieser Zeitschrift vorgestellt wurde.

DATA STRUCTURE DESIGN

66

Arvas,C. FORMAL ANALYSIS OF ELEMENTARY FILE SYSTEMS

File Organization, (1969) p. 97 - 107

This paper describes formal matrix-oriented methods for the analysis of elementary file systems. Topics discussed include auxiliary matrices which take into account the processes in the system, grouping of processes and consolidation of files, grouping of processes in systems with direct access files, algorithm for transformation of the auxiliary matrix in connection with process grouping and choice of sequential or direct access memory.

67

Bachman,C.W. DATA STRUCTURE DIAGRAMS

File Organisation, (1969) p. 108 - 116

This paper outlines Data Structure Diagrams, a graphic technique for communicating the information set relationships between classes of entities. The technique evolved out of the need to communicate concisely between people the complex data structures being implemented with the Integrated Data Store, General Electrics data base management system, but is now being used more broadly, purely to study, document and communicate data structures.

68

Benner,F.H. ON DESIGNING GENERALIZED FILE RECORDS FOR MANAGEMENT INFORMATION SYSTEMS

Proc. 1967 Fall Joint Computer Conference, p. 291 - 303

This paper analyses the logical components of a record and puts them in a context that permits the design of a file record which can be mathematically optimized. It treats these components as the natural subsets of a record

in terms of their various attributes. These subsets are reassociated into a physical record in such a way as to maximize the number of transactions that the record may handle and the utilization of storage for any arbitrary record length. In doing this, it emphasizes the flexibility of such a record and suggests a way of obtaining associative identification of the logical records. The technique permits both the batch and the real-time requirements to influence the design in a normal or in a weighted manner.

69

Blauner,D. A CENTRAL FILE FOR COMPANY CAPABILITIES

Office,The (Stamford,Connecticut) 67 (1968.03) no. 3 p. 14 - 21 (5 pp.)

This paper tries to give an answer to the question of how to develop and operate a resource data file to make it easier for personnel to gather information about any aspect of the company's business. An example of a descriptor list for a related experience file is given.

70

Borsci,A.A. ; Bos,A.C. REAL-TIME INFORMATION MANAGEMENT DESIGN CRITERIA FOR SYSTEM EFFICIENCY

Information processing 68; Proceedings of the IFIP Conference (1968) 2.p. 630 - 649

State of the art hardware and software characteristics of real-time computer systems which contribute significantly to system efficiency are described. Two operational generalized information management systems for handling transaction queries in a real-time communication oriented environment presented. Methods for optimization of system design and performance are given. They are based on analysis by modeling and simulation techniques. Two simulators developed for central computer sites and communication subsystems are demonstrated. Use of computer programs to evaluate system reliability and availability is shown and demonstrated.

71

Codasyl Systems Committee A SURVEY OF GENERALIZED DATA BASE MANAGEMENT SYSTEMS

Technical report; no place,,no publisher; 1969. 398 pp.

The aims of this survey is to find a common basis for describing generalised data management systems, to demonstrate its usability, and to make this information available to the computing community as a basis for further theoretical and development work within CODASYL. This report discusses the following systems : Advanced Data Management System; Generalized Information System; Integrated Data Store; Information System Leasing; Mark IV File Management System; National Military Command System; System control; Time-Shared Data Management System; User Language /I.

72

Coulson,J.E. PROGRESS REPORT FOR THE INSTRUCTIONAL MANAGEMENT SYSTEM

PB - 184 367; (1968.05); 146 pp.

The document describes progress in the development and demonstration of a computer-based instructional management system (IMS). The rationale and design considerations of IMS, development of its system components,functioning of the components during the first field trial, and data collected during the first field trial are discussed in this progress report. IMS is designed to aid teachers in the individual monitoring and management of student progress. The teachers administer frequent tests, which are keyed to behaviorally defined objectives and printed on machine readable forms. Data input procedures transform pupil responses for computer analysis and the com-

puter-generated report contains an analysis of pupil's achievement of objectives and suggests remedial excercises for those who did not meet the criterion performance level.

73

Duffy,G.F. Gartner,F.P. AN ON-LINE INFORMATION SYSTEM FOR MANAGEMENT

Proc. 1969 Spring Joint Computer Conference p. 339 - 350

This paper is concerned with MIS/360, a management information system which is an integral part of the operating and management activities of IBM's Poughkeepsie Systems Development Laboratory. The paper describes the efforts and problems that preceded installation of the system; the organization and analysis needed for implementing the system; the basic capabilities of the system; the actual means of making enquiries, updating files and retrieving necessary data and applications. MIS/360 is a real-time, time sharing system employing an IBM System /360 Model 50 computer with remote typewriter and display terminals on-line.

74

Emery,J.C. MANAGEMENT INFORMATION SYSTEMS

Progress in Operations Research, 3 (1969) p. 489 - 524

A chapter in a book dealing with the relationship between operations research and the computer. The chapter discusses generally management information systems and the kind of planning and control which can be achieved with computer-based systems. After discussing the nature of the management information systems and the role of computers in them, the systems concept is explained. Integrated systems are then discussed, followed by an account of the planning process. The final topics discussed are the effect of technology on information systems design and the implementation of advanced information systems.

75

Fry,J.P. Bramson,S. Fried,D.C. Grabowsky,W.P. Jeffries,J. DATA MANAGEMENT SYSTEMS SURVEY

AD-684707 (1969) jan., 198 pp.

This report presents the results of a survey of salient characteristics of a representative set of state-of-the--art data management systems. It is a part of an effort to identify the state-of-the-art capabilities of data management systems for third-generation computer systems. Section I of the report includes general descriptions of the systems surveyed and establishes the terminology for logical organization of data used in the survey. Section II describes the capabilities surveyed and presents the survey results in tabular format.

76

Gloess,P. Lambert,J. Pitard,P.; Paris,C. ACQUISITION CODAGE VISUALISATION

L'echo des recherches (1969) no. 56, p. 6 - 16

Cet article décrit un dispositif de visualisation de signatures, supposées enregistrées dans la mémoire de masse d'un calculateur, ainsi que le procédé de stockage utilisé. On évoque l'application de ce système à l'authentification des signatures l'ors d'un retrait de fonds effectué dans une succursale bancaire.

77

Klimesch,H. INFORMATION MANAGEMENT SYSTEM

IBM Nachrichten (Sindelfingen bei Stuttgart) 19 (1969.06) no. 195 p. 720 - 728

Dieser Artikel behandelt folgende Fragen:1. Konzeption des IMS; 2. Dateiorganisation im IMS,u.a. Allgemeines zur Datenbanksprache Data,Language I (DL/I), Aufbau der Dateien im IMS, Speicherungsformen im IMS, Einfügen und Entfernen von Daten, Beschreibung der Daten 3. Datenkommunikation im IMS,u.a. Allgemeines; Unterstützte Datenverarbeitungs-Einheiten, Form und Bearbeitung von Nachrichten Beschreibung der Kommunikationsstruktur 4. Programmierung im IMS; Zugriff zu den Datensegmenten, Verarbeitung von Nachrichten im Programm,Programmierung mit DL/I - Zugriffsbefehlen,Beschreibung der IMS-Programme; 5. Supervisor-Funktionen;IMS und Betriebssystem,Programmlogik im IMS, Problem der gegenseitigen Störung verschiedener Programme; 6. Verwaltungsfunktionen im IMS 7. Der Einsatz des IMS 8. Kennzahlen zum IMS.

78

Langefors,B. ELEMENTARY FILES AND ELEMENTARY FILE RECORDS

File Organisation (1969) p. 89 - 96

In designing an information system for integrated management control the problem is encountered of how to ensure that all the information used in the system is defined, identified and stored so that it can be used efficiently whenever needed.The problem of efficient design and management of a data base is thus a central part of the theory of information systems. A method is outlined of designing a file handling system which is able to retrieve an elementary record automatically from the name of the elementary message and from the design data of the system.

79

Lewis,A.S. SOME TECHNIQUES FOR DATABASE MANAGEMENT

Data processing (London) 12 (1970.01/02) no. 1 p. 24 - 28

The aim of this article is to present certain data structuring and organising techniques in the light of their potential to support database management requirements.The advent of more powerful computing facilities has made the establishing of a Management Information System utilising integrated pools of data for a large, complex organization a reality. Among the topics discussed are: Changes to database; Grouping of links; List header; Growth of records;Records accessed; Item classification; Altering structure of records; Use of record segmentation; Adequate throughput achieved.

80

Lin,H. A FILE MANAGEMENT SYSTEM FOR A LARGE CORPORATE INFORMATION SYSTEM DATA BANK

Proc. 1968 Fall Joint Computer Conference, p. 145 - 156

The key factors in the implementation of a corporate information system are the establishment of a corporate data bank and the design of a file management system that will provide for efficient and effective use of this data bank. This paper describes the requirements, strategy, design and implementation of such a file management system.

81

McIntosh,S.; Griffel,D. ADMINS FROM MARK III TO MARK V

Information processing 68; Proceedings of the IFIP conference (1968) 2, p. 1260 - 1266

In our design of a computer based data management system we focus on the following issues: object data (both information data about the environment and scientific data under hypotheses) about cases possess data descriptions. The data descriptions in turn are described by meta data. Processing and analyzing data means that data states have been changed either in actuality or in simulation. System data records these changes of state. The data structures and operators in Mark V are designed to handle object data, meta data and system data recording operations in a working environment.Our concern is not with research on computer techniques but rather with developing a powerful data handling capability.

82

20

Olle,T.W. DATA STRUCTURES AND STORAGE STRUCTURES FOR GENERALIZED FILE PROCESSING
File Organisation (1969) p. 310 - 315

In using complete generalized file processing systems it is important to note that several such systems have what may be termed an opaque data structure. This paper discusses the difference between data structure as seen by the user and storage structure which is in the form of internal representation of the data.

83

Peinze,K. und H.P. Niederhausen INFORMATIONSVERARBEITUNG IM INTEGRIERTEN DATENVERARBEITUNGSSYSTEM - IDENTIFIKATION VON INFORMATIONEN
Elektronische Datenverarbeitung (Braunschweig) 10 (1968.04) no. 3 p. 153 - 155

In der integrierten elektronischen Datenverarbeitung übernehmen Maschinen in zunehmendem Masse die Verarbeitung von Informationen. Vom Standpunkt des mit Hilfe der EDV angestrebten Zieles ausgehend, werden Forderungen an die Informationsdarstellung aufgestellt. Die Analyse des Systems, mit dem der Mensch Informationen verarbeitet, zeigt, dass dieses System für eine maschinelle Verarbeitung nicht geeignet ist. Es wird vorgeschlagen, jeder Information, auf die an beliebiger Stelle eines Systems zurückgegriffen werden soll, eine systemlos vergebene Identifikationsnummer (Ident-Nummer) zuzuordnen.

84

Richter,A.C. GEO - CODING - AN APPLICATION IN A LOCAL GOVERNMENTAL INFORMATION SYSTEM
Proc. 23rd ACM Nat. Conference (1968) p. 117 - 131

This paper discusses a numbering system for the identification of individual divisions of land in St.Louis Cpunty and its various applications in a local government information system.

85

Wedekind,H. DIE KONSTRUKTION EINES OPTIMALEN ZUGRIFFSBAUMES FÜR DATENORGANISATIONEN EINER DATENBANK
Elektronische Datenverarbeitung (Braunschweig) 11 (1969.12) no. 12 p. 555 - 563

Nach der Behandlung von linearen Organisationsformen wird auf die von nichtlineare Anordnung von Sätzen und Segmenten in Datenbanken eingegangen. Die segmentierten Sätze einer Datei werden nach einer Methode von Sussenguth gespeichert und wieder aufgefunden. Es wird ein Algorithmus dargestellt, der den Erwartungswert der Zugriffszahl minimiert. Der Algorithmus ist eine Verallgemeinerung des Algorithmus von Patt.

FILE ORGANISATION

86

Angell,T. and T.M. Randell GENERALIZED DATA MANAGEMENT SYSTEMS
Computer group news (New York) 2 (1969.11) no. 12 p. 5 - 12

The article describes the general capabilities of several types of today's GDMS systems. Emphasis is placed upon what the systems can do for the user, the languages available for expressing file descriptions and processing requests, the file organization capability and the operational environments. The article is divided into the following parts: evolution of GDMS software; characteristics of GDMS; and file organization and data structure.The second section provides review of several contemporary GDMS systems of computer manufacturers and software houses.

87

Allen,R.P. OMNIBUS : A LARGE DATA BASE MANAGEMENT SYSTEM

Proc. 1968 Fall Joint Computer Conference p. 157 - 169

This paper describes the Omnibus system for maintaining and interrogating a large data base, discussing in particular the topics of data structure, data interfacing, data retrieval, data integrity, accomodating changing data requirements and patterns of retrieval. In this system, retrieval and maintenance functions are simplified for high-level language application programs by the provision of a group of shared routines for basic functions required in the execution of a simply specified task. The data base is made compact by a condensing technique for omitting unused fields and portions of fields. Data elements of widely varying space requirements are accomodated by means of the structuring of sections into variable configurations of field strings. A high level of flexibility, detailed operating data for the computer model, a variable dictionary and FORTRAN IV (levelG) program listing, operating instructions for implementing the simulation with OS/360, and a commentary on practical experience using the simulator. The simulation is completely self-contained and provides a system for exploratory analysis, in sales forecasting, aggregate planning or production smoothing, scheduling and inventory control and management information reporting.

88

Bernstein,A.J. SYNCHRONISATION IN A PARALLEL - ACCESSED DATA BASE

Commun. ACM, 12 (1969) nov., p. 604 - 607

The following problem is considered : Given a data base which can be manipulated simultaneously by more than one process, what are the rules for synchronization which will maximize the amount of parallel activity allowed.It is assumed that the data base can be represented as a graph. An example of such a data base is a hierarchy of directories for an one-line file system. Methods for synchronization of processes are examined; their validity is discussed and their performance compared.

89

Bleier,R.E.; Vorhaus,A.H. FILE ORGANIZATION IN THE SDC TIME-SHARED DATA MANAGEMENT SYSTEM (TDMS)

Information Processing 68; Proceedings of the JFIP Conference (1968) 2, p. 1245 - 1252

The flexible general-purpose data management systems of today permit drastic reductions in the time and cost of initiating new data handling activities or changing existing ones. Furthemore, these new systems are exceptionally responsive to individual user's needs. Managers in the coming era of data management will want immediate answers to a multiplicity of questions; these answers in turn may led to other questions. Traditional data management systems with their rigidly structured files cannot be used to meet the requirements of responsiveness to the unpredictable question. Completely inverted and cross-indexed file structures, called "concordances ", can. Such a file organization is the basis for the Time-Shared-Data Management System (TDMS).

90

Brewer,S. DATA BASE OR DATA MAZE ? AN EXPLORATION OF ENTRY POINTS

Proc. 23rd ACM Nat. Conference (1968) p. 623 - 630

This paper discusses ways of searching data bases organized in various ways. It is concluded that "logical and efficient structuring, clear pathways, thoughtfully selected scanning techniques spell the difference between intelligent management of a good data base and hopeless blundering in a confused data maze."

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91 22

Canning,R.G.(ed.) DATA MANAGEMENT : FILE ORGANIZATION

EDP- Analyzer (vista,Calif.) 5 (1967.12) no. 12 p. 1 - 13

Data management; file organization methods and associated file processing languages for handling structured data files (primarily files stored in mass storage devices are discussed) and file organization aspects of some of the new data management systems. The major aims of most of the new data management systems are given. Some methods of organization: Organization via chains 1. As an example of this system the General Electric Integrated Data Store (IDS) and the Computer Command and Control Multi-List are discussed. Organization via tables 2. Auerbach Data Manager-1 (DM-1), NAA-IBM Information Control System (ICS) are two examples discussed in this article. Factors in file organization are given. Discussion of the file stuctures: reasons behind the structures, file organization, reducing redundancy,characteristics of the data, simplifications to ease programming. Decoding the keys: randomizing and decoding via indexes are discussed and search strategies are pointed out.

92

Chu,W.W. OPTIMAL FILE ALLOCATION IN A MULTICOMPUTER INFORMATION SYSTEM

Information Processing, 68,; Proceedings of the IFIP Conference (1968) 2 p. 1219 - 1225

A mathematical model is developed to allocate optimally sets of information files that are required in common by several computers. The model considers storage cost, file lenghts, usage rates of the various files, the maximum allowable access time to various files of each computer and the storage capacity of each computer. The criterion of optimal allocation is minimal overall operating costs (storage and transmission). The model can be formulated into a integer zero-one programming problem with nonlinear constraints, that can be reduced to linear constraints. Therefore available mathematical programming techniques can be used to solve allocation problems. A simple example is given to illustrate the model.

93

Dueker,K.J. A LOOK AT STATE AND LOCAL INFORMATION SYSTEM EFFORTS

Proc.23rd ACM Nat. Conference (1968) p. 133 - 142

This paper attempts to condense and summarize the material pertaining to information systems for state and local government. To facilitate analysis, a tentative classification scheme is presented which consists of two main categories: system orientation and system mode. System orientation is subdivided into management control and spatial planning.The systems considered are operable in the following system modes: personal; statistical; administrative;plan test and special.The following system properties are also used to distinguish between the various systems: software; data organization and storage; file location; and entities and identifiers.

94

Dunbar,M.S. ADP - PAYMENT OF SHORT TERM SOCIAL SECURITY BENEFITS.FILE STRUCTURE AND RECOVERY PROCEDURES FOR A LARGE DIRECT ACCESS FILE OPERATED BY REMOTE STATIONS

File Organisation (1969) p. 267 - 282

This paper discusses the main problems in designing a suitable file structure and in providing adequate recovery arrangements for a large-on-line system for recording all claims for Social Security payments and for processing all data relating to these claims.The system is implemented on ICL 1906 and 1904 computers with 80 remote stations and three fixed discs.The file organization is described in some details.The address generation depends on the operation

of an arithmetic calculation on the record keys to provide as even a distribution as possible of generated addresses,.

95

Hsiao,D.K. ACCESS CONTROL IN A ON-LINE FILE SYSTEM

File Organisation (1969) p. 246 - 257

The growth of a file system is measured in terms of quantity and intelligence. Users must be encouraged to share information, but this requires protection for certain types of information. This paper presents a working access control mechanism, which is incorporated in the file system for the Moore School Problem Solving Facility, a multi-access on-line computer complex with programming, storage and retrieval and data management capabilities.

96

Johnson,L.L. DATA COLLECTION WITHIN LIVESTOCK AUCTIONS

File Organisation (1969) p. 379 - 386

This paper describes a file system for storing and retrieving data relating to buyer's and seller's accounts at livestock auctions. A particular requirement of the system is that it should enable the auction to balance its books before closing for the day as required by U.S. federal regulations.Random access to accounts is provided by a double directory system in which a small core directory refers the program to a more complete disc directory which contains pointers to the sector containing data for a given account.

97

Lewis,A.S. FILE ORGANIZATION FOR DATAFLOW

File Organisation (1969) p. 165 - 177

This paper describes the organization of a network file used in implementing (on an ICL 1904) DATAFLOW, a computer-aided systems analysis tool. DATAFLOW is primarily concerned with recording details of an existing data system and analyzing it, during which it is necessary to form a computer model of the system under study. Any model of a data system,if it is to cover many of the aspects of the system, must deal with fairly involved data relationships.Adequate representation and handling of such relationships in providing reasonably comprehensive analysis pose many problems. File organisation for the DATAFLOW computer is an attempt to solve such problems.

98

Lowe,Th.C. THE INFLUENCE OF DATA BASE CHARACTERISTICS AND USAGE ON DIRECT ACCESS FILE ORGANIZATION

Journal of the ACM (New York) 15 (1968.10) no. 4 p. 535 - 548

Memory utilization and retrieval time from direct access inverted files are investigated as a function of the data base, the demands on it and a parameter which the system designer may control.An analysis of the effects of data base characteristics and data base usage is also made for a linked list structure.

99

Lutz,T. ADRESSKETTEN UND DATENBANKTECHNIK

Bürotechnik und Automation (Baden-Baden) 9 (1968.4) no. 4 p. 178 - 187

Das Problem der Organisation einer Datenbank besteht darin, eine möglichst vielseitige Transformation von den Ordnungsbegriffen, die die Daten klassifizieren, zu den Adressen, unter denen man Zugriff auf die Daten hat, zu ermöglichen. Dateien als Basis für Management-Information-Systeme (MIS) bedingen die Möglichkeit komplexer Auswertungen

die aus mehreren Dateien zusammengestellt werden müssen. Durch Adresskettung ist dieses Ziel zu erreichen (unter dem Namen "Beisatz- oder Fortsetzungstechnik " bekannt).

100

Lutz,T. FORMATIERTE DATENBANKSATZE

Bürotechnik und Automation (Baden-Baden) 10 (1969.02) no.2 p. 48 - 54

Bekanntlich versteht man unter einer Datenbank die Zusammenfassung von Datenelementen aus einem abgeschlossenen Organisationsbereich. Diese Datenelemente sollen in der Datenbank so gespeichert sein, dass man aus ihnen, nach gewissen Gesichtpunkten, die sich aus dem System ergeben, das die Datenbank bedient, Informationen bilden kann, dass man also über den Zugriffsmechanismus der Datenbank ihre Datenelemente beliebig in Auswertungen einbeziehen kann. Verfügen diese Datenelemente in der Datenbank über einen festen Aufbau, über ein vorgegebenes Format, so spricht man von einer formatierten Datenbank, im Gegensatz zur unformatierten, bei der die Felder zu Sätzen gruppiert sind. Dieser Artikel beschreibt den logischen und den physischen Satz; die Typologie der Sätze; die Beschaffung logischer Sätze, das Segmentierungsproblem.

101

McGee,W.C. FILE STRUCTURES FOR GENERALIZED DATA MANAGEMENT

Information Processing 68; Proceedings of the IFIP Conference, (1968),2 p. 1233 - 1239

This paper presents techniques for representing complex data structures as directed graphs, and for making explicit declarations of graph - structured files. The techniques are extensions of those found in many generalized data managements systems for representing data structures as trees, which are special forms of graphs. The technique could thus be used to extend the application of generalized data management to problems with data structures more complex than trees, including such problems as network analysis, computer graphic, and information retrieval.

102

Madnick,S.E. DESIGN STRATEGIES FOR FILE SYSTEMS : A WORKING MODEL

File Organisation, (1969), p. 117 - 136

The evolution of file systems is surveyed and compared with the development of basic operating systems. To a large extent file systems are developed as unique procedures instead of being mass produced. Modern file systems often outweigh all other operating system components so it is important that a generally applicable methodology be found for file system development. The paper presents a modular approach to the design of general purpose file systems, which covers most advanced file systems, current or planned, and is also applicable to more modest systems.

103

Maine,P.A.D. de : FILE STRUCTURE OF THE SOLID SYSTEM

File Organization, (1969) p. 137 - 148

The SOLID (Self-Organizing Large Information Dissemination) System is an automatic (with respect to retrieval, storage, updating and purging) and self-organizing (with respect to the file) information retrieval system. It has been implemented on IBM System/360 Models 40, 65, and 67. Although the system has not yet been fully implemented it will eventually be able to organize any collection of documents or items, whose individual members have been assigned time-invariant sets of descriptors. This paper describes those parts of the SOLID system which are responsible for the organization and management of its files.

104

Martin,L.D. A MODEL FOR FILE STRUCTURE DETERMINATION FOR LARGE ON-LINE DATA FILES

File Organisation, (1969), p. 223 - 245

The importance of deciding upon the right form of file organization for a given problem is discussed, and previous approaches to the problem are outlined. This paper develops an approach aimed at providing the systems analyst with a simple method of narrowing the selection of file organization schemes to be evaluated or a quick method of determining which file organization should be used.

105

Minker,J. and J. Sable FILE ORGANIZATION AND DATA MANAGEMENT

Philadelphia (Pa), Auerbach (1967) IV 48 pp.

Reprinted from Annual Review of Information and Technology 1967.Information sciences and technology.

This paper is concerned with the techniques of organization, maintenance, and search of machine files and also with the more complicated problem of managing large data bases and making the data accessible to users. The paper contains tutorial and expository material, as well as reports of recent work in the field. Thus, for example, general properties of indexing strategies as well as the reported characteristics of the index in particular systems are discussed.

106

Nielsen,T.H. THE MANAGEMENT INFORMATION SYSTEM - A BASIS FOR FILE CONSIDERATIONS

File Organisation, (1969) p. 1 - 5

Introduction to a seminar on file organization in which a basic model for a management information system is discussed from the point of view of file organization.

107

Philips,M. EXPERIENCE IN SETTING UP THE NATIONAL COMPUTER PROGRAM INDEX AND RELATED FILES

File Organisation, (1969) p. 369 - 373

In 1967, the National Computing Centre established the National Computer Program Index containing abstracts of computer programs giving details of application, language and computer. The file can be searched on demand to select suitable programs. A current awareness facility allows new material to be matched with members' interest profiles.The paper describes the way in which the Index was developed and discusses the general file maintenance and processing system developed for all the Centre's files.

108

Raver,N. FILE ORGANIZATION IN MANAGEMENT INFORMATION AND CONTROL SYSTEMS

File Organisation, (1969), p. 6 - 33

This paper describes a file organization approach, to support Management Information and Control Systems. This functional area encompasses the need to support simultaneously the general purpose query capability, allow data independence for application programs and provide a logical framework so that systems designers can evolve the data bank as it grows and changes. A code known as Data Bank Manager (DBM) establishes an internal interface which disciplines the application programmer to distinguish between data and the relationships between data. Because of this restraint, logical changes to the data base involving data or the relationships between data can occur without the rewriting of application programs.

109

Richteritsch,K. DEVELOPING A DATA BANK IN THE REAL TIME ENVIRONMENT
File Organisation, (1969) p. 34 - 46

Scandinavian Airlines System (SAS) decided that an evolutionary approach to developing a data base was nece
ry. A data handling system is outlined and details are given of the file handler, pre-compiler and data format l
ry. The system has to be sufficiently flexible to accommodate the following real-time applications from which the
mation required is likely to be subject to change : 1. seat reservation system;2. load control system (to perform
ger check-in function and aircraft weight and balance calculations); 3. material supply system (covering inventory a
procurement functions for SAS overhaul bases); 4. operational control system (to keep track of aircraft movements)
and 5. crew control system (to perform crew scheduling and check-in functions).

110

Springer,G.K. Maine,P.A.D.de : THE SOLID SYSTEM GLOBAL MEMORY COMPONENT
File Organisation, (1969), p. 160 - 164

This paper describes the global memory component (SMEMORY) of the SOLID system. SMEMORY transfers memory bloc
between the auxiliary file, which can be located on any combination of devices, and core storage. By modifying
SMEMORY new storage devices can be added without altering the existing addressing scheme. SMEMORY has two parts. Part
supervises the auxiliary file while information paths are being traced, purged, created or updated. Part B is used whe
the job stream is completed and execution of SOLID is temporarily halted. It saves the memory block currently resident
in core storage and punches the first part of the auxiliary file.

111

Unk,J.M. SHARED UNIVERSAL MANAGEMENT INFORMATION SYSTEM
File Organisation, (1969), p. 47 - 59

The author states that by 1975, 75% of U.S. information systems will be shared systems,i.e. having a common data base of application packages for the user to apply to his own files of information (data packages which can be filed in the system and are subject to special privacy arrangements). The system outlined is referred to as a Shared Universal Management Information System (SUMIS). Emphasis is placed on the need for management to be able to process information in a way that is meaningful to their environment and without their needs becoming subservient to the system.

112

Vethe,E. FILES PERMANENTLY ON MAGNETIC TAPE AND WITH A LIMITED RANDOM ACCESS MEDIUM (DRUM) TO BE USED FOR INTERMEDIATE STORING WHEN PROCESSING THE FILE
File Organisation, (1969), p. 283 - 294

This paper describes a proposed file structure for an inventory control system that is yet to be implemented. The proposed structure is intended to utilize available storage media, namely magnetic tape and part of a drum which can be used as an intermediate random access store.

113

Waghorn,W.J. SHARED FILES
File Organisation, (1969), p. 199 - 210

This paper is an elementary introduction to the problems of shared files and considers files on direct

access devices with numerous independent and simultaneous users who wish to make enquiries and amendments and to perform analyses. An examination is made of some of the problems entailed and an attempt is made to outline some general solutions,including some on privacy.

114

Williams,R.F. AN INTEGRATED DATA BANK

File Organisation, (1969) p. 295 - 301

Large-scale integrated management information systems require extensive supporting files. Using a standard program from a computer manufacturer the central processing unit can be waiting for information from external stores for more than 75% of running time. A tailor-made file organization and retrieval system is discussed and also a hardware configuration which will reduce the computer time and memory requirements for medium to large scale integrated management system files.

PROGRAMMING

115

Anoniem: SYSTEMS METHODOLOGY STUDIES : COMMON DATA BASE III

Document no. E 62 (1969.08) 40 p.

This report, the third in a continuing series on the common data base, presents the results of the recently completed work of the CDB System Specification Subcommittee of the IMIS a Committee on the Common Data Base. The work of this subcommittee has resulted in the general specification of a CDB software system. This report consists of that specification together with a discussion of why the most important features are felt to be necessary and how certain other features might be implemented, thereby demonstrating their technical feasibility.

116

Barnett,M.R. PROGRAMMING LANGUAGE SUPPORT OF DATA BASES

File Organisation (1969) p. 331 - 345

This paper examines the role of the general purpose programming languages,such as COBOL and PL/I, in the construction,maintenance and use of data bases. The economies possible by carrying out a wide range of information processing functions with a single, general purpose language have clearly been demonstrated.There is very reason to believe that such economies can be maintained if general languages are developed to meet the peculiar problems arising from the integration of individual files to form a data base.The classes of data base users are identified and the functional areas requiring language support isolated. The importance of writing programs which are highly resistant to changes in the internal organization of a data base is emphasized. This places a requirement on language to define and operate only on logical data structures, i.e. named data items and the structural relations between them. One way in which these requirements might be expressed in PL/I is presented.

117

Cadwallader,G. FUNCTIONAL AND SOFTWARE CONSIDERATIONS FOR BIBLIOGRAPHIC DATA BASE UTILIZATION

PB - 183 816 (1969.05) 49 p.

The report describes the general functional and software requirements of National Agricultural Library System using external sources of bibliographic data.

118

Canning,R.G. DATA MANAGEMENT : FUNCTIONS

EDP analyzer (Vista, Calif.) 6 (1968.01) no. 1 p. 1 - 12

In this issue the functions of data management systems are analyzed. Discussed are Informatics MARK IV developed by the Advanced Information System Division of Informatics Inc, the IBM MIS / 360 and additional information is given on the Auerbach Data Manager-1, discussed in last month's issue. All three systems are designed to work on the IBM / 360. 7 major elements of data management systems are discussed in turn: languages to be used, libraries, file organization, operating environment, interpreting data definitions, privacy and security, scope.

119

Dixon,P.J. GENERALIZED DATA MANAGEMENT - FUNCTIONAL REQUIREMENTS

File Organisation (1969) p. 302 - 309

It is suggested that a favourable economic effect could be obtained on the design, implementation and operation of information systems if a general software solution could be found to the overall problem of data management. This would eliminate much repetitive systems and programming work. The functional requirements which will characterize generalized data management software and will meet certain operational objectives are discussed under the headings data definition; data maintenance; data use and data-program relationship.

120

Dixon,P.J. and J. Sable; DM-1 - A GENERALIZED DATA MANAGEMENT SYSTEM

Philadelphia, Penn., Auerbach (1967) 14 pp.

The basic objective of Data Manager-1 (DM-1) is to provide business organizations with the comprehensive data handling capability which is discussed in this paper. The system languages designed for DM-1 are: 1. Job specification language; 2. Query language 3. Data definition language 4. Procedural language. Several adaptive aspects of DM-1 are discussed, such as : 1. Modular design and 2. Restructuring of data. The functional elements of DM-1 are the data base and the directories. The main directory tables are: 1. Term encoding table 2. Item position index 3. Segment name list 4.Segment Index. Job specification, system programs, job requests and data entry requests are also discussed.

121

Fraser,A.G. FILE INTEGRITY IN A DISC-BASED MULTI-ACCESS SYSTEM

File Organisation (1969) p. 69 - 88

The operating system used on the Titan computer at Cambridge University includes procedures for the organization and maintenance of file storage. About 3.500 files, belonging to some 150 users, are held on magnetic disc with a total capacity of 64 million characters. This paper describes in some detail the file management software, which includes those procedures concerned with file identification, file privacy, space allocation and file integrity.

122

Freeman,A. FILE STRUCTURE AND DATA BASE DESCRIPTION IN THE IMP LANGUAGE

File Organisation (1969) p. 346 - 359

This paper describes work on a conversational multi-access system being implemented on Edinburgh University's ICL System 4/75 computer. The system software is being written in IMP (Implementation language) which is derived from Atlas Autocode and is similar in structure.to ALGOL. In addition to speed of writing and ease of communication,IMP provides efficient operation and data handling and accurate and consistent knowledge of the layout of data objects.

123

Fry,J.P. and J. Gosden SURVEY OF MANAGEMENT INFORMATION SYSTEMS AND THEIR LANGUAGES.AD 684 - 706

Springfield Clearing House, 1968, 20 pp. ; Data Management series, no. 1

Significant data management systems available on third generation hardware are considered.Three types of used interface are discussed: Own DML (Data Management Language) Systems, Forms Controlled Systems and POL Embedded Systems. Typical systems within each category are presented and their salient features are highlighted.

124

Grindley,C.B.B.; Stevens, W.G.R. PRINCIPLES OF THE IDENTIFICATION OF INFORMATION

File Organisation (1969) p. 60 - 68

SYSTEMATICS is a language for describing information systems without regard to the way machines or men will perform the systems. It is thus a pure problem-oriented language, the basic principles of which are outlined in this paper dealing first with the basic structure of information and then the selection of information. Examples are given to illustrate the use of the various parts of the language.

125

Henry,D.F. PROGRAMMIERUNG FÜR MANAGEMENT - INFORMATIONS - SYSTEME

Zeitschrift für Datenverarbeitung (Köln) 7 (1969.10/11) no. 7 p. 464 - 466

Eines der Hauptprobleme des Einsatzes eines kommerziellen Computers in einem Unternehmen ist die Distanz der Unternehmensleitung bei der Planung und Realisierung des Systems. Diese Situation ist im wesentlichen auf die extreme technische Komplexität der nötigen Programme zurückzuführen, die es erforderlich macht,Fachpersonal wie Systemanalytiker und Programmierer zu beschäftigen, deren Konzentration auf die Verfahrensweisen an sich eine Verständigung mit den Managern schwierig macht, die wegen ihrer allgemeinen strategischen Aufgaben keine Zeit haben, auch noch Programmierungsverfahren zu beherrschen.Dieses Problem lässt sich durch die Verwendung von Programmiersprachen und Programmiersystemen etwas mildern, so dass sich die Systemanalytiker auf weiter gesteckte Ziele konzentrieren können. Der Trend jedoch zu immer komplexeren und ehrgeizigeren Projekten hebt diese Erleichterung wieder auf.Dieser Artikel will daher die Aufgabenstellung klären und einige mögliche Lösungen untersuchen.

126

Jira,L. Stedronsky,V. INFORMATION AND DOCUMENTATION RETRIEVAL SYSTEM INDORES - IBM

File Organisation (1969) p. 374 - 378

This paper briefly describes the Information and Documentation Retrieval System INDORES - IBM, which is composed of a suite of programs written in COBOL for the IBM 7040.

127

Kircher, P. BREAKTHROUGH IN MANAGEMENT INFORMATION SYSTEMS

J. Data Management 7, (1969) feb., p. 28 - 31

This article discusses recently-developed program packages for 1. creating and updating files and 2. retrieving special - purpose information on demand and how they can be used.

128

Landau,H.B. RESEARCH STUDY INTO THE EFFECTIVE UTILIZATION OF MACHINE- READABLE BIBLIOGRAPHIC DATA BASES

PB - 184 616, (1969.06), 63 p.

A comparative description of nine bibliographic data bases of interest to the National Agricultural Library; An analysis of the basic modes of bibliographic data base interaction and an initial screening of alternate interaction modes; Literature search on the subjects of bibliographic data base interaction, compatibilty and standardization; A study of the functional and software considerations for bibliographic data base utilization; A study of the intersystem compatibility and convertibility of subject vocabularies; An investigation of the query language and search strategy considerations for data base utilization; An analysis of machine format compatibility and conversion problems among bibliographic data bases; Recommendations for continuing the research effort.

129

Lutz,T. GENERALIZED INFORMATION SYSTEM (GIS) - EIN EXEKUTIVSYSTEM FÜR DATENBANKPROBLEME

IBM Nachrichten (Sindelfingen) 19, (1969.06) no. 195, p. 714 - 719

Mit GIS wird ein "Software" - System zur Verfügung gestellt, eine Datenbank zu betreiben und alle damit verbundenen Probleme programmtechnisch zu formulieren. GIS besteht aus einem Sprachübersetzer und einem Dateiprozessor, der Datenbank für GIS-Programme verfügbar macht. Beide bilden zusammen ein Exekutivsystem, dessen Sprachssyntax die Formulierung aller in Zusammenhang mit einer Datenbank anfallenden Aufgaben gestattet. Gliederung: Teil I. Problemstellung; Der Aufbau von GIS; Datenbeschreibungstafeln (DDT); Dateien in GIS; Die Pflege der Datenbeschreibungstafels; Einfache Anfragen; Eine Anmerkung.

130

Lutz, T. GENERALIZED INFORMATION SYSTEM (GIS) - EIN EXEKUTIVSYSTEM FÜR DATENBANKPROBLEME

IBM Nachrichten (Sindelfingen) 19, (1969.08) no. 196 p. 786 - 792

Ein wesentlicher Bestandteil von GIS ist die GIS - Sprachsyntax, mit deren Hilfe man Anfragen an eine Datenbank richten kann, die es aber auch gestattet, die Datenbank zu modifizieren und zu pflegen. Die Elemente dieser höheren problemorientierten GIS-Sprache werden in dieser Schrift dargestellt und anhand einiger Beispiele demonstriert. Gliederung: GIS-Prozeduren; Die Elemente der GIS-Sprache; Operationelle Elemente der GIS-Sprache; Anfragen an die Datenbank; Modifikationen der Datenbank; Pflege der Datenbank; Abschliessende Bemerkungen.

131

Maine, P.A.D. de; Springer,G.K. THE COPAK COMPRESSOR

File Organisation, (1969), p. 149 - 159

In systems with very high storage requirements, some means of compressing the data must be used. This paper describes, and discusses the performance of COPAK, a data compression system originally designed for the SOLID system, but which can be used in communications and computer networks. The stored or transmitted information is a fully defi-

ned string which contains all necessary information to decompress, check and print.

132

Mandell,R.; Estrin,G.; Kunz,J. THE RECORD FORMAT LANGUAGE - A PL/I EXTENSION FOR LARGE FILES

File Organisation, (1969),p. 360 - 368

The PL/I language as it is currently implemented does not provide sufficiently general facilities for generating and maintaining libraries of self-defining records. The Record Format Language (RFL) is a language for describing the information in files in which the individual records may contain different types and amounts of information. The language provides a means for assigning a name (PL/I identifier) to every field that can appear in a record and provides a programmer with a means for detecting which fields are actually present when he reads a record. Similarly, he can specify the fields out of the total map of possible fields which he wishes to write.

133

Richards,F.S.G. A CONVERSATIONAL APPROACH TO FILE PREPARATION AND MAINTENANCE FOR REMOTE JOB ENTRY

File Organisation, (1969), p. 258 - 266

The Central Electricity Generating Board's power system is operated by control engineers at seven Area Control centres and a National Control centre. Several computer programs have been developed to perform such functions as economic generation scheduling, transmission security assessment, demand estimation and generation costing. It is important that data should be prepared easily and quickly and that results should be displayed as soon as possible. For this purpose the CASO (Computer Assisted System Operation)system has been developed in which remote terminals in the control centres are on-line to a time-sharing central computer system (IBM System/360 Models 75 and 50) .

134

Ross,D., Braden,R.T.; Brody,R.E.; Crowley,J.O.; Earl,D.B.;Halperin,J.H.;Lonergan,R.M.;Stainton,R.T.: DSM- A TEXT EDITOR WITH TIME REVERSAL CAPABILITY

File Organisation (1969); p. 316 - 330

This paper describes DSM, a conversational program for editing files of card images which has the ability to reverse time, in addition to the usual editing capabilities of inserting, deleting and altering records of text. The program maintains a complete history of all editing actions, so it is possible to revive any previous editing state of a file. New text is stored in chronological order, as it is introduced into the file.Once stored, the text is never altered or deleted. A set of pointers called a file map describes the correspondence between the physical placement of records of text and their logical sequence within the file. Entries in the file map, reflecting editing changes to the file, also are stored in chronological order. Reversing time is accomplished by unlinking the most recent file map entries.

135

Scharf,T. FILE ORGANIZATION AND ACCESS TECHNIQUES FOR NATURAL LANGUAGE INPUT TO ON-LINE EDP-SYSTEMS

File Organisation, (1969), p. 211 - 222

An order processing system is described for the publishing and book distribution trade, which takes account of the high cost of staff in a computer system and the need to increase security of correct results. A flexible natural language input system is described which has obvious advantages in a terminal user conversational-mode environment, and which has also been found useful in off-line systems.

136

Sem-Sandberg,S.; Odmansson, E.; FILE ORGANISATION BY PLUTO

File Organisation, (1969), p. 178 - 198

This paper gives a presentation of PLUTO, a system for the creation, maintenance and use of direct access files recording structures. The system consists of a set of subroutines available for the ICL 1900 series computer and can be used with both PLAN and COBOL programs. In addition to a brief description of PLUTO, the paper indicates some of the original thoughts behind the system including an outline of some of its applications.

137

Tucker,M. · DATA MANAGEMENT SYSTEMS

Software world (London); 1 (1969, autumn) no.1 p. 14 - 17

One of the most interesting developments in the data processing field has been the recent proliferation of proprietary software packages using the "catch all" title of Data Management System. This proliferation has created a great deal of confusion among computer users and programmers. The purpose of this article is to clear up this confusion by answering the following questions : 1. Should Data Management systems be considered for use today ? 2.What types of Data Management Systems are available ? 3. Which type of Data Management Systems should be used ?

AVIATION

138

A COMMERCIAL DATABANK OF INTERNATIONAL AIR FARES AND CARGO RATES

EDP weekly, (Washington), 10, (1969.10), no. 27 p. 12

Kind of enterprise: Data centre. Type of process: Commercial databank of international air fares and cargo rates. Name of the machine used for the application: IBM 360/40. Name of the enterprise: Dataplan. Place and country : New York, USA. Size of the enterprise: The databank contains up-to-date fares and rates for 200.000 pairs of connecting points.

139

Peters,R. ANATOMY OF A MANAGEMENT INFORMATION SYSTEM

Business automation (Elmhurst,III.) 16; (1969.11) no. 11 p. 62 - 68

Kind of enterprise: Aerospace industry. Type of process: Management information system. Name of the machine used for the application: IBM 360/50 with DPI terminals and DPI receiver/processors, and an IBM 360/30 with IBM 1050 teleprocessing stations. Name of the enterprise: Grumman Aerospace Corp. Place and country: Long Island,USA,.Size of the enterprise: 1.15 billion sales in 1968. The major computer files and documents used to transmit, store and process data are: the product master file (PMF); the material master file (MMF); the work-in-process file (WIP).

140

Suess,G.E. THE BIRTH OF A DATA BANK

Journal of data management (Park Ridge, III.) 4 (1966.11) no.11 p. 24 - 27

The Data Bank of North American Aviation,Inc., points out a new approach of meeting large and complicated information processing and communications needs. Used for the information system is the computer complex including an

IBM system /360 model 30, a 1460 and 1030 system. There are three levels of concern: operating systems, for data acquisition; information systems for management visibility into current operations; management systems for sophisticated future planning, operations research, scientific management techniques.

BANKS

141

Schoeters,T. THE MANAGEMENT INFORMATION SYSTEM OF THE HAMBROS BANK OF LONDON

Computers and automation (1970.01) no.1 pp. 50 - 52

For the banking procedures two medium-sized computers (ICL 1903 and 1902A) are working together. Forward plans have been established until well in the 1970's on the basis of decentralisation, using a future computer system as a live data bank and communications network to all sectors of the Hambros Bank.

142

Stevens,R.G. MANAGEMENT INFORMATION SYSTEMS - WHERE TO BEGIN IN BANKING

Journal of data management (Park Ridge,III); 6 , (1968.05) no. 5 p. 46 - 52

Management Information Systems for banking are not created just because somebody has made a computer and written the necessary software, but because there are management problems to be solved. To put the horse back in front of the cart, the author boils down the issue into three main elements and discusses each of them.

EDUCATION

143

Anderson Jr., G.E. THE DATA BANK : A NEW TOOL FOR RESEARCH AND A NEW RESPONSIBILITY

Data processing for education (Detroit) 5, (1966.02) no. 2 p. 4 - 5

The advantages and problems of data banks for education. Among the advantages: opening new horizons for educational research, (Project Talent), some activities now called "research" will become routine administrative reports of a "quality control" nature, research on a higher level. Among the problems : efficient coding, storage and retrieval,control problems and the problems related to confidentiality and security.

144

Grant, C.B.S. EDUCATION AND DATA PROCESSING : DIGITEK 100, OPTICAL SCANNING FORM GIVE LEGISLATORS EDUCATIONAL DATA BASE

(Philadelphia) (1967.11) Data processing magazine, pp. 66 - 67

145

Tricker,R.I. TEACHING MIS AT A BRITISH UNIVERSITY

Datamation (New York) 15 , (1969.09) no. 9 p. 76 - 77

Business schools have two masters degree programs "management science and operational research " and "management and business studies". This article suggests that on both of these programs students are required to take a course in management information and control systems. There is a range of possible approaches to the teaching of MIS. In the author's opinion computer assistance is increasingly essential in the practice of MIS; in theory,however, computers are largely irrelevant. The teaching, therefore, lies in the middle of this range.

GOVERNMENT

146

INTERGOVERNMENTAL TASK FORCE ON INFORMATION SYSTEMS.

The dynamics of information flow; recommendations to improve the flow of information within and among federal,state and local governments.

Springfield, Clearing House, 1968. 20 pp. PB no. 178 307

The recommendations are grouped according to the following chapter titles under which they are discussed: improving information systems within governments; improving the exchange of information among governments; strengthening information systems at the local level; sharing systems knowledge; achieving compatibility among systems; improving information about Federal Assistance Programs; guidelines for action.

147

Inventory of data banks in the Public Sector

Paris, Organisation for Economic Co-operation and Development, 1970 (11th February) 33 pp.

Directorate for Scientific Affairs; Computer utilisation in Member Countries; Computer utilisation studies.

No. DAS / SPR / 70.2.

The inventory is arranged by country in alphabetical order and within each country the data banks are arranged according to the stage they have reached. Subjects : Crime, Economy, Education, Finance, Labour, Law, Library, Medical Welfare, Meteorology, Patent, Politics, Population Register, Regional planning, Scientific and technical information, Transport. No further information is given except the name and address of the organization.

148

Black,H. and E. Shaw DETROIT'S DATA BANKS; social and physical files

Datamation (New York) 13 (1967.03) no. 3 p. 25 - 27

Kind of enterprise: city government (local government), data banks for city government (governmental information center). Name of the machine used for the application : IBM 7040. Name of the enterprise: Detroit city government. Place and country : Detroit - USA. Size of the enterprise: 4 million inhabitants. Particularities of this application : Description of the use of a physical data bank : physical data processing, and a social data bank : social statistics, statistical summaries etc. These information centers are in use in the city government of Detroit.

149

Brandon Applied Systems Inc., THE NATIONAL DATA CENTER CONTROVERSY

Data systems (London) 10 (1969.03) p. 20 - 24

The majority of the U.S. data processing community concedes that the proposed National Data Center would eliminate duplication of effort and economic planning and contribute to general understanding of the social system. Sceptics feel that it could provide the unscrupulous with a dangerous weapon against the individual. The primary issue became the potential invasion of privacy and the threat to civil liberties, individuality and personal dignity such a data bank represented.

150

Hosse,H. LANDESDATENBANK NORDRHEIN - WESTFALEN

ADL Nachrichten (Kiel - Elmschenhagen) 13 (1968.10/12) no. 54 p. 320 - 327

Die Gliederung dieses Artikel ist wie folgt: 1. Die Grundkonzeption einer Landesdatenbank; 1.1. Die Problemstellung; 1.2. Definition einer Datenbank; 1. 3. Technische Möglichkeiten der Datenpflege,-speicherung und - verarbeitung in einer Datenbank (Aktualität,Abrufzeit,Verknüpfung von Daten; die Durchführung von logischen und Rechenoperationen;Datenfernverarbeitung); 1.4. Verwendungsmöglichkeiten der Datenbank (Informationszentrum;Raumbeobachtung;Frühwarndienst;Planung; Standortanalyse). 2. Probleme und Erfahrungen beim Aufbau der Landesdatenbank Nordrhein-Westfalen; 2.1. Verwertung vorliegender Erfahrungen; 2.2. Standort der Datenbank; 2.3. Der Datenkatalog; 2.4. Hilfsmittel zur Benutzung der Landesdatenbank; 2.5. Organisatorische Probleme der Speicherung. 3. Zusammenarbeit mit anderen Datenbanken 4. Schlussbemerkung.

151

Jones,R.D. THE PUBLIC PLANNING INFORMATION SYSTEM AND THE COMPUTER UTILITY

Proceedings of 22nd Nat. Conference; Washington (DC), Thompson,London, Academic Press,pp. 553 - 564

ACM Publication, P - 67

152

Koller,H.R. SAFETY DATA AND SOCIAL ISSUES : THE NATIONAL HIGHWAY SAFETY DATA SYSTEM

Information Processing 68; Proceedings of the IFIP Conference (1968) 2, p. 1253 - 1259

The U.S. Department of Transportation is engaged in a multifacetted program to improve highway safety. One important component of this effort is to be a national highway safety data and information system.The background of this system is presented and some of its economic, social and legal implications are discussed.

153

Parker,J.K. OPERATING A CITY DATABANK

Public automation - Output (Chicago) june 1965, p. 1 - 3

Description of the city databank of Alexandria,Va.. This databank is mainly an external databank containing information about the city rather than information about the organization, such as accounting and personnel data. The databank employs two master files.The street section file contains 120 items of information about the 3.518 blocks and intersections in the city whereas the parcel file contains 91 types of information about 20.000 parcels of land. Together these master files provide a record or "filing slot" for information related to any part of the city.

154

Potter,A.M. BRITISH SOCIAL SCIENCE RESEARCH COUNCIL DATA BANK

Information retrieval and library automation, (Detroit),4, (1968) no. 3 (ang.) p. 5 - 6

This data bank was established at the University of Essex in October 1967. It collects social and economic data from academic, governmental and commercial sources, so as to make the data available for further analysis. The data bank "cleans" and stores the data, provides information about the data to potential users, and reproduces or carries out further analyses of the data on application.

155

Schultze,C.L. A DATA SYSTEM FOR MEASURING AND ANALYZING PUBLIC PROGRAMS

Monthly labor review, (Washington); 93, (1970) no. 3 pp. 13 - 15

Detailed specifications for a Federal Statistical data center are proposed to guard against invasion of privacy.

156

Sackman,H. A PUBLIC PHILOSOPHY FOR REAL-TIME INFORMATION SYSTEMS

Proc. 1968, Fall Joint Computer Conference; p. 1491 - 1498

This paper is concerned with the social consequences of the use of computers for the regulation and control of social affairs. The need is discussed for a public philosophy for the real-time information system,i.e. a system that monitors events in a specified environment and controls the outcome of such events in a desired direction. The key elements in such a public philosophy are then examined. Finally an attempt is made to demonstrate that the fundamental elements of this public philosophy can be found in American pragmatism.

INDUSTRIAL APPLICATIONS

157

Bate,C.F. BUSINESS INFORMATION SYSTEMS

Data processing (London) 11, (1969.05 /06), no. 3 p. 227 - 231

The objective of this article is to show that a carefully developed business information system is just about the best investment which can be made by almost any organization. Not merely in the very long-term ten years or more, but in the relatively short-term, realising benefits within the first year or so of the development phase. In fact the purpose of such a system is simply to help in the planning, running, controlling and development of the business. This article gives some illustrations from the case history of the Honeywell Micro Switch Division, which has successfully developed and implemented a business information system.

158

Beale,H.A. DIRECT ACCESS FILE ORGANIZATION FOR A SHARED BUSINESS SYSTEM

File Organisation (1969) p. 387 - 391

This paper is concerned with a computing service being established for the maintenance of memebers's accounts

for several independent Building Societies. Remote terminals connected to the computer by private telephone line will be used for data collection and enquiries. The paper describes the direct access file system employing IBM 2314 disc system which may eventually hold up to two million accounts.

159

Cohen, H.M. A MIS THAT SCORES AS A DECISION-MAKER

Business automation (Elmhurst) 14, (1967.11) no. 11 p. 44 - 48

Radio Corporation of America has developed a Management Information System, which has been in operation since 1965 and which performs all decision-making functions. The necessary logic for this decision-making is incorporated in the System itself. This article discusses the data acquisition and its explosion. It gives insight into the programming and the "sliding scale " calculations of Economic Order Quantity. It is illustrated by two flow charts for the order processing and the inventory and purchasing system.

160

Porter, J.R. THE INTERNATIONAL DATA CENTER CONCEPT

Information Processing 68; Proceedings of the IFIP Conference, (1968), 2, p. 1273 - 1275

The concept of an International Data Processing Center arose from an appreciation of the need to economize in staff, while at the same time bringing computer access to a number of Mobil Affiliates (irrespective of the differing activities and environments of these affiliates). An independent company - Mobil Data Services Limited (MDSL) - was formed in 1964 and now provides four basic types of service to Mobil Affiliates in Northern Europe, and to certain East African Affiliates through their London service organization. These are : Commercial Data Processing, Scientific Data Processing, Centralized Accounting, Cable Relay (Message Switching).

161

Reitman,J. ; Burke,T.J.; PRODUCTION MANAGEMENT INFORMATION SYSTEM

IEEE Trans. Systems Science & Cybernetics , SSC - 14, (1968) Nov., p. 424 - 432

A Management Information System has been developed and implemented using General Purpose Simulation System (GPSS)/360. The system provided the following data for a solid-state production facility: 1. current location of wafers showing work orders started, total daily production, and rejects; 2. yesterday's and accumulated yield by step and projection of number of finished wafers from this quantity; 3. location of dormant work orders,i.e., orders that had not moved for a specified time; 4. current utilization of equipment and manpower; 5. number of orders awaiting processing at each step and how long they have been waiting; 6. daily operations schedule of wafers to be processed each day according to a predetermined priority structure; and 7. delivery forecast for when orders would be shipped and how the date varies according to resources applied. The inventory status data were structured in GPSS/360 to provide a common data format for both current status and forecasting. This fully operational system was developed to satisfy specific solid-state management requirements. This system was organized in a general manner for flexibility and change and could be modified to be used as a management information system for other types of operations.

41

162

Rosner,W.N. ORGANIZING FOR MANAGEMENT INFORMATION

Systems and procedures journal (Cleveland) 19, (1968.11 /12) no. 6 p. 35 - 37

A revolution in concept and equipment best describes the advances in information processing technology during the past ten years. The next five years promise to be even more exciting as we expand our knowledge of how to use this new technology and build on it. Top management, operating management and the systems organization should each have important complementary roles in the plan. This article tells how these roles were executed in the four-phase plan of the Singer Co.

163

Sierellä,P. PROCESS COMPUTER AND PRODUCTION DATA BANK

Nord-Data-68; organiserat av Finska Dataföreningen ; Konferensföredrag II, pp. 695 - 697

164

Tyran,M.R. COMPUTERIZED FINANCIAL DATA BANKS : TRANSITION FROM CONCEPTUAL DESIGN TO REALITY

Management accounting (New York); 50, (1968.09) no.1 p. 36 - 43

Often, the initial master plan fails to give proper recognition to a number of computer associated requirements that are of prime importance if the desired reliability of information and effective equipment utilization is to be obtained. Discussed here is an approach to computerized financial data banks and their integration as adopted by the Pomona Division of General Dynamics. Various criteria are discussed in this article which will give the capability to monitor the input at the source of entrance, decrease the time span of data submission and processing, provide computer controls throughout the system and make possible the organization of data for on-line retrieval or scheduled reporting.

INFORMATION RETRIEVAL

165

New York Times Information Bank,The : A REAL - TIME INTERACTIVE INFORMATION RETRIEVAL SYSTEM

New York Times, March,26, 1969. Press sheet.

166

Del Bigio,G. GIPSY - A GENERALIZED INFORMATION PROCESSING SYSTEM

Proc.1968, Spring Joint Computer Conference p. 183 - 191

This paper describes GIPSY , a generalized system for processing bibliographic information. The input to the system describes the material which is being documented. The bibliographic components are identified by means of a code permitting access to any of those components which may have an independent documentary value (e.g. authors for author index, report numbers for report number index etc.) . The information can then be processed to obtain printed reports: bibliographies, classified if desired, with or without abstracts; and various indexes, including subject indexes (KWIC). A duplication check procedure is also included in the system. The aim is to produce ready-to-publish copy, and therefore various editing and format features are provided. The information processed can be stored for subsequent use,e.g.,pro-

duction of cumulative indexes or retrieval.

167

Institut für Datenverarbeitung; Fachbereich Information: FAKDOKUMENTATION, DATENZENTREN, DATENBANK
Dresden,I.D.V., 1969, 35 pp., Literatur - Information 4/69.

168

Landau,H.B. MODES OF BIBLIOGRAPHIC DATA BASE INTERACTION AND INITIAL SCREENING OF ALTERNATE MODES
PB-183 609, (1969.03) 26 p.

The report to the National Agricultural Library (NAL) consists of two basic parts. The first part defines the basic interaction alternatives and subalternatives open to the NAL with respect to its interfacing with other bibliographic data bases and information services. The second part concerns the screening of the initial set of proposed alternatives to eliminate those options that are either infeasible or impractical owing to various managerial and technical considerations. Broad screening criteria include NAL's objectives and goals, the nature and capabilities of potentially interacting data bases, and economic and administrative limiting factors. An initial screening of interaction modes will therefore be effected, thus reducing the number of alternatives that have to be analysed and evaluated in depth as this study of data base utilization progresses. A discussion of the degree of variation among the remaining interaction alternatives is also presented.

MEDICAL DATABANKS

169

Baruch,J.J. THE GENERALIZED MEDICAL INFORMATION FACILITY
Information Processing 68; Proceedings of the IFIP conference, (1968), 2, p. 993 - 999

An analysis of the various population segments to be served by a general medical information system has a marked bearing on system design. Each segment has its own requirements, leading it to emphasize some characteristics and depreciate others. The results of this analysis indicate that it is currently more reasonable to serve the medical community with three separate systems, loosely coupled by communications facilities, than with a single system. As communication along the population segments grows, a unified system may evolve.

170

Gabrielli,E.R. RIGHT OF PRIVACY AND MEDICAL COMPUTING
Datamation, (1970, April) p. 173 - 178

Report on the meeting on the "Use of computers in clinical medicine ", organized by Continuing Medical Education, State University of New York, at Buffalo, October 2 - 5, 1969.

171

UNE "BANQUE DE DONNEES " MEDICALES
Zéro,un.informatique-actualités (Paris); (1968.11) p. A3 .

Les articles et nouvelles de 20.000 revues médicales du monde entier seront analysées et indexés à l'aide d'u NCR 315 - RMC-501 d'un 321 par la fondation Excerpta Medica. Dans les deux unités CRAM seront stockés 160 millions de caractères d'information accessibles en 100 millisecondes.

172

Billeter,B.M. ANFORDERUNGEN AN KONZEPTION UND AUFBAU EINER DATENBANK
(Dargestellt am Beispiel des Real-Time Informationssystems im Danderyd-Hospital, Stockholm)
ADL - Nachrichten, (Kiel); 14, (1969.07/09) no. 58 p. 652 - 656

Kind of enterprise : Hospital. Type of process : Datenbank. Name of the machine used for the application : Univac 494. Name of the enterprise : Danderyd-Hospital. Place and country: Stockholm, Sweden. Size of the enterprise: 1500 Betten. Requirements for conception and structure of a databank - described from an example of a real-time information system in Danderyd-Hospital at Stockholm.

173

Jainz, M. ORGANISATION EINER DATENBANK AUF MAGNETBANDER FÜR DIE HAUTKLINIEK KIEL
Methodik der Information in der Medizin (Stuttgart), 8, (1969.10), no. 4 p. 190 - 192

M I S

174

BIBLIOGRAPHY ON MANAGEMENT INFORMATION SYSTEMS (provisional)
Amsterdam, Netherlands ADP Research Centre /Library and Documentation Department, 1969, 10 pp.

175

TIDE IS RISING FOR MANAGEMENT INFORMATION SYSTEM AMONG JAPANESE EDP USERS
Automation journal of Japan (Tokyo) 2, (1968.09) no. 9 p. 1 - 2

The Japan Computer Usage Development Institute has selected 1300 firms utilizing computers and sent the questionnaires which focused on their MIS. A total of 475 replies were received and this article is a consensus of those responses. 16 percent of those replying are adopting the MIS approach in their organization in a rather limited scope. 20,9 percent have MIS under consideration now and more than 50 percent are considering utilization of MIS in the future.

176

Brussaard,B.K. INFORMATIESYSTEMEN TEN BEHOEVE VAN DE BEDRIJFSBESTURING
Elektrotechniek, 81, (1969), no. 2, p. E1 - E5

Management Information Systems as defined here for practical purposes only, differ from technical computer-applications in several respects. An important difference is that in Management Information Systems the information processed is primarily coming from and used by people at all levels in the organization whereas in technical computer applications the computer-input is directly coming from and/or the computer-output is directly used for the control of other machines without human intervention. The basic concepts of Management Information Systems are mentioned, especially

their function in the co-ordination between the objectives of an organization, the activities of an organization and the outside environment of an organization. Examples from private and public organizations are given. Furthemore the possible consequences of the introduction of Management Information Systems and the most important characteristics of Management Information Systems as applications of information-technology are discussed at some lenght as well as the reason for the slow progress of the practical introduction of Management Information Systems up till now.

177

Bürki,W. INTEGRIERTE MANAGEMENT-INFORMATIONS-SYSTEME (IMIS)

Industrielle organisation (Zürich) 38 (1969.06) no. 6 p. 249 - 256

Das Informationsproblem in der Unternehmung wird zu einer Existenzfrage. Die verwirklichung eines Integrierten Management-Informations-Systems (IMIS) führt zu besseren Entscheidungsunterlagen und rationelleren Arbeitsabläufen. Die damit einhergehenden Umstellungen sind so umfassend und tiefgreifend, dass nur ein entsprechender jährlicher Aufwand (bis zu 1% des Umsatzes) sorgfältigste Planung und ein partizipativer Führungsstil zum Erfolg führen.Dieser Artikel zeigt die Grundsätze zur Verwirklichung eines integrierten Management-Informations-Systems.

178

Bürki,W. INTEGRIERTE MANAGEMENT-INFORMATIONS-SYSTEME (IMIS)

Industrielle Organisation (Zürish),38 (1969.12) no. 12 p. 519 - 525

Ein integriertes Management-Informationssystem (IMIS) ist ein nachrichtenumsetzendes Mensch-Maschine-System. Spezialisten beherrschen heute weitgehend die maschinenorientierten Probleme des Systemaufbaus. Für die Unternehmungsführung dagegen ist die Fachmännische Planung und Steuerung der damit verbundenen psychosoziologischen Wandlungsprozesse noch grossenteils Neuland. Nur wenn sie das Management beherrschen lernt, kann es sich die Möglichkeiten der Informationstechnik für seine Führungsaufgaben richtig zunutze machen.

179

Canning,R.G. (ed.) WHAT'S THE STATUS OF MIS ?

EDP analyzer (Vista,Calif.) 7 (1969.10) no. 10 14 pp.

The term "management information systems " (MIS) is so ambiguous that one could draw almost any conclusion one wants to about such systems. Defined in one way, they do in fact exist today; defining another way, their realisation is not even close. There have been some impressive accomplishments toward MIS and some imposing problems loom ahead. This report, the first of two on MIS, deals with the present situation and what the next obstacles seem to be. Contents: Introduction (type of reports, using the system, the planning system, the Pillsbury Company, approaching the subject of MIS); characteristics of a MIS (variations in MIS, structure of the reporting system, data file structure, functions performed,user characteristics, management mis-information systems).

180

Canning,R.G. TECHNICAL SUPPORT FOR AN MIS

EDP analyzer (Vista,Calif.) 7 (1969. 11) no. 11 p. 1 - 13

This is the second of two reports on today's status of management information systems, based on a survey of pioneering user firms. The question has been analyzed: what does management need from an MIS ? The functions that users are finding necessary are reported and the status of today's systems compared with those needs. How well the computer

technology can support the needs of an MIS is discussed.

181

Cloot,P.L. MANAGEMENT INFORMATION SYSTEMS ' - CAN COMPUTERS HELP ?

Computer bulletin,The (London) 11, (1968.03) no. 4 p. 276 - 281

A Management Information System (MIS) is not an end in itself, it should exist only to help managers to carry out their work more effectively. It is therefore necessary to have a picture of manager´s job clearly in mind while discussing what has happened so far in the application of computers to MIS, and we may expect to happen in the future. This paper therefore considers first what a manager´s job is and how information may be made available to him. It goes on to consider the effect of introducing a computer into a MIS and a brief review is given of the evidence that such systems already exist,before a list is drawn up of ground rules to follow to ensure that computers are used as effectively as possible when they are applied in this field.

182

Courgeon,Y. POUR UNE BANQUE D´INFORMATION DANS L´ENTREPRISE

Zéro.un.informatique (Paris) (1967,02) no. 7 p. 16 - 18

Une banque d´information reçoit toutes les informations élémentaires. Cette banque alimente tous les niveaux dans tous les fuseaux avec les synthèses nécessaires suffisantes. Ce système, quoique discutable au point de vue financier, fournit à tous les niveaux de structure de l´entreprise des informations nécessaires et suffisantes.

183

Eksl,R. INFORMATIQUE ET MARKETING "LE MIS " NOUVEL OUTIL POUR LA DIRECTION COMMERCIALE

Informatique et gestion (Paris) (1969.06/07) no. 9 p. 7 - 11

Le sous-emploi des techniques informatiques en matière de marketing s´explique par la jeunesse de cette branche d' activité qui n'a que progressivement mis au point ses méthodes propres. En schématisant,on peut distinguer deux types d'approche : l'une théorique, qui s'est transformée en véritable science du marketing, l'autre pratique,qui a donné lieu à ce que l'on peut appeler d'un terme générique,les statistiques commerciales. Une véritable science du marketing s'est donc développée, créant, ses propres méthodes de réflexion, d'analyse et d'action. Concluant, on peut dire que les MIS, parce qu'il intègre de manière souple un ensemble de connaissances et de techniques provenant de domaines différents et complémentaires,l'informatique d'une part, le marketing d'autre part, est par lamême un instrument de choix pour les décisions complexes de gestion et de politique commerciale.

184

Gottberg,G. von, DATENBANKEN ALS INFORMATIONSZENTRALE IN UNTERNEHMEN

Wirtschaftsprüfung,Die (Düsseldorf) 22, (1969) no. 2/3 p. 71 - 74

Dieser Artikel beschränkt sich auf Datenbanken, welche numerische Daten umfassen, die das zur Führung eines Unternehmens notwendige Zahlenmaterial enthalten. Es wird davon ausgegangen, dass genau bekannt ist, welche Daten in der Bank gespeichert sind und wie gespeichert wird. Die Frage des "wie" soll im folgenden diskutiert werden. In der Einleitung des Artikels werden die Charakteristika herkömmlicher EDV-Systeme und der Aufbau und die Formen von Datenbanken besprochen. Weiterhin wird behandelt: der Inhalt der Datenbank; die Anforderungen des Benutzers; der Aufbau der Dateien und die Speicherung der Daten; die Kommunikationsmöglichkeiten mit der Datenbank (Abrufsysteme, Query-Languages,Sprachen für schwierige Probleme).

185

Hanold,T. MANAGEMENT BY PERCEPTION

System (Bull); (London); (1967,autumn) no. 20 p. 6 - 11

Management by perception, a means of seeing the enterprise clearly and as a whole, requires a total information system. The Pillsbury Company in Minneapolis has begun an action against this form of management by establishing an executive chart room which has electronic connections with the information system. This article outlines the experiences in Pillsbury firm, illustrating the trend of change in management circumstances. It pays attention to direct savings,concentration of resources, basic application, communications, aids to management, optimization, risk-taking, long-term planning, simulation, operating decisions,multi-level access.

186

Hanold,T. A PRESIDENT'S VIEW OF MIS

Datamation, 14, (1968), p. 59 - 62

The president of the Pillsbury Company discusses management information systems in general terms, his approach being based on the view that the needs and purposes of his company provide the context, the perspective and the value tests which give meaning to a computerized environment. He summarizes what has been accomplished and what is being attempted in the management information systems field. He then considers the question of whether the management-oriented information system will bring into being an information-oriented management system.

187

Hedde,J.M. UNE APPROCHE PRATIQUE D'UN "MIS" AU NIVEAU D'UNE COMPAGNIE DONT LES ACTIVITES SONT DIVERSIFIEES

Bulletin CEGOS informatique (Puteaux) (1969.5/6) no. 29 p. 11 - 16

Le but de cet article est de décrire un MIS fonctionnant sur ordinateur et destiné à la Direction Générale dans une Compagnie dont les activités sont diversifiées. Le schéma de l'organisation de la compagnie est discuté. On examine quelques-uns des principaux sous-systèmes existants dans le MIS: le système de programmation au niveau du groupe (CPS); le système comptable au niveau du groupe (CAS); le système budgétaire (CBS); système budgetaire au niveau des services fonctionnels (CSBS); système pour les déclaration à l'administration (GRS); système central d'information des services fonctionnels (SGIS); le système de planification des projects (CPPS);le système "organisation de la compagnie" (COS).

188

Johannisson,J. and E.Ch. Svensson DATABANK BRYTER ADB-TRADITIONER

Datateknik (Stockholm) 6, (1970) no. 1/2 p. 30 - 34

Was ist eine Datenverarbeitungsstelle und wie wird sie benutzt ? Eine Antwort darauf geben die Autoren, die auf dem Projekt DATASAABS TIPS- projekt beteiligt sind (TIPS - totale Informations- und Produktions-leitungssysteme). Die Autoren sind Mitglieder einer Forschungsgruppe, die TIPS-Projekte plant und Systeme bildet, Verwaltungsmethoden und ADV-Techniken mit Schwerpunkt auf dem Gebiet der Datenverarbeitung.(Swedish).

189

Lutz,T. und H. Beutler MANAGEMENT INFORMATION SYSTEMS (MIS)

IBM Nachrichten (Sindelfingen) 18, (1968.10) no. 191 p. 367 - 374

Dieser Beitrag ist der Beginn einer Artikelserie zum Thema MIS. Im ersten Artikel werden "Begriffe und Konzeption

des MIS" behandelt, im zweiten "Die Datenbank und ihre Probleme " untersucht. Ein weiterer Beitrag hat das Thema "Der Weg zu einem MIS". Das Grundanliegen dieser Beiträge ist, das Arbeitsgebiet "MIS" von seiner Komplexität und seinem Schwierigkeitsgrad, aber auch von seinem Aufwand her in die richtige Grössenordnung zu rücken, die gelegentlich etwas unterschätzt wird. Folgende Begriffe werden in diesem Beitrag erläutert : Daten und Informationen - Die Problemstellung des MIS - Datenbank und Informationssystem - Was sind Management - Informationen - Die Management Pyramide - Das Problem und seine Grössenordnung.

190

Senensieb,N.L. AN INTRODUCTION TO COMPUTERIZED MANAGEMENT INFORMATION SYSTEMS
EDP informational service (New York) (1969.11) p. 27 - 39

The major feature of an integrated Management Information System is that it represents a planned network of related sub-systems which are developed in accordance with an integrated scheme for performing the activities of a business. A distinction must be made between "data" and "information". Data is simply unrelated and uninterpreted facts, transactions or statistics. Information is a knowledge derived from the collection, organization and analysis of data. Business information can further be classified in terms of three basic purposes it serves,i.e. : 1. Operating information - which consists of working documents,e.g. move tickets, checks, invoices,etc., facilitating the transactions involved in the routine functioning of the business; 2. Planning information - which permits the comparison of alternative courses of action; 3. Evaluation and control information - that which checks how well performance is compared to the plan.

191

Szyperski,N. MANAGEMENT SCIENCE AND MANAGEMENT INFORMATION SYSTEMS
IAG quarterly (Amsterdam) 2, (1969) no. 4 p. 81 - 95

There are two different, fundamental relations between Management Science and Management Information Systems. The author defines these relationships: 1. Management Science deals with methods of problem solving which produce solutions for quantifiable management problems: these methods are applied to parts of developed MIS. 2. Management Science, especially OR, provides optimizing techniques which may be applied for designing information systems; 3. Management Science has or should have a subset "Managing MIS". Subjects discussed are: management information process as a central point for interdisciplinary research and education; Management Science and OR for the generation of information; Management Science, Computer Science and technology pertaining to MIS; effectiveness and efficiency of MIS.

192

Thomas,D.T. A PRACTICAL APPROACH TO CORPORATE - LEVEL COMPUTERBASED MIS
Journal of data management (Park Ridge III.); 6, (1968.10) no.10 p. 22 - 27

The primary purpose of this article is to describe a management information system for top management of a diversified corporation with emphasis upon the computer´s role, but at the same time, keeping the computer in its proper perspective.

PERSONAL IDENTIFICATION

193

DATA NETWORK TRACKS MIGRANT CHILDREN
Data processing for education (Detroit); 8, (1969.08) no. 6 p. 9

An information network that will enable school systems in the 48 mainland States to exchange records of migrant children within a day's time is scheduled to begin operations in April. The network, called the Uniform Migrant Students Record Transfer System, will establish a central data bank in Arkansas, linking the participating States and local school systems electronically. For the first time, schools will be able to obtain detailed information within 24 hours about enrolled migrant children as the youngsters travel from State to State or within a State. Six kinds of information will be stored: Information about specific patterns of mobility, family and attendance; health information; test information; information on special interests,abilities,and needs; general demographic data; results of analysis of basic student data.

194

INFORMATION PROCESSING ASSOCIATION OF ISRAEL (IPA)

Proceedings of the international symposium on automation of population register systems, held in Jerusalem, Israel, 25 - 28th September 1967;(Volume I - II).

Jerusalem, IPA Information Processing Association of Israel, 1967.

Volume I., XIII, 544 pp. Foreword.Introduction.Contents:

1. Central population registers - State systems; 2. Design problems of population registers; 3. Various population register applications 4. Population registers - municipal systems 5. Application-Health and education 6. Statistical applications; 7. Alphabetical indexing 8. Personal identification number 9. Equipment; 10. Theoretical problems.

Volume II. X, 259 pp.

This volume contains papers concerning the following subjects: integration between population register and other public activities; the population register system and its automation; central control of assessee files by the internal revenue services in Israël; social insurance for Israëls population; the community of Bologna population file system; applications of populationregisters, the statistical application; GRAPHEX, a new soundex system; a panel discussion deals with the integration of ADP systems; central organization and methods directorate of the Norwegian Government.

195

KENNZEICHENSYSTEME - EIN PROBLEM DER VEREINHEITLICHUNG

Wirtschaftliche Verwaltung A.W.V. (Frankfurt a/M.) 14, (1968.10) no. 10 p. 1 - 2

Der Artikel gibt einige Meinungsäusserungen zu der Mitteilung von April ds.Js. wieder, dass eine massgebliche Firma anlässlich der Übernahme ihrer Kreditoren-Buchhaltung in die elektronische Datenverarbeitung beabsichtigt, ihre Lieferanten aufzufordern, in jeder Rechnung, Belastung oder Gutschrift im Anschriftenfeld statt des Wortes "Firma" die für sie festgelegte fünfstellige Kreditorennummer anzugeben. Da die Meinungen noch sehr auseinanderlaufen, fordert die FA "Einheitliches Personenkennzeichen " - die Gestaltung und Einführung eines allgemeinen Kennzeichens für juristische Personen, Personenmehrheiten und Organe.

196

Rapport commissie Westerhout : RAPPORT INZAKE REGISTRATIE VAN PERSOONSGEGEVENS

s-Gravenhage, Staatsuitgeverij, 1970, 57pp. Appendix.

Report on automation of personal identification nembers in the Netherlands. Contents: Introduction. Identification numbers. Use of a basisregistration. Management of basisregistration and relation to existing activities. Realisation of the basisregistration. Appendix.

197

ON THE PROPER USE OF PRIVATE INFORMATION

Public automation (Chicago) 3 , (1967.05) no. 5 p. 1 - 4

U.S. Bureau of the Budget has proposed a Federal Data Bank, processing data of the inhabitants of the USA for various objectives. Realization will increase efficiency in a number of governmental operations. On the other side there will be a real danger for privacy of the individual, and this is the reason for these discussions and protests. This article gives a survey of the discussion and the hearings and conferences treating the subject and the suggestions to solve the problems in question.

198

Maass,W. ZUM STAND DER EINFÜHRUNG EINES ALLGEMEINEN PERSONENKENNZEICHENS IN DEUTSCHLAND

ADL Nachrichten (Kiel - Elmschenhagen) 13; (1968.10/12) no. 54 p. 336 - 339

Der Bundesinnenminister hat im April dieses Jahres den Bundesressorts einen Vorschlag über die Einführung eines einheitlichen Personenkennzeichens (PK) unterbreitet, welche Anwendung im Rahmen der Automationsbestrebungen sowohl den öffentlichen Verwaltungen als auch der Wirtschaft einen grossen Nutzen bringen kann. Die folgenden Gesichtspunkte werden behandelt : Gliederung des P.K.; zur Frage der Unterscheidungsnummern; über die Speicherung von Angaben im Rahmen des P.K.; die praktische Einführung des P.K.

199

Maron,M.E. LARGE SCALE DATA BANKS; will people be treated as machines.

Special libraries (New York) 60,)(1969.01) no. 1 p. 3 - 9

Given the existence of large scale data banks that store information about people (their health, education, financial status, etc.) a natural next step in the direction of full automation will be the automatic selection of people. That is, for example, the use of machines to decide who shall be permitted to attend certain schools, or obtain an educational loan, or be given a travel visa, or be allowed a security clearance, or have his driver's licence revoked, etc. The selection process will be automated by having a machine search through its file of personnel data and select - or reject - those persons whose records match on certain criteria. This paper describes the logic of automatic selection, and how this process constitutes one of the most serious threats to our society - the tendency to treat people as machines.

200

Milliman,G. ALAMEDA COUNTY'S "PEOPLE INFORMATION SYSTEM"

Datamation (New York) 13, (1967.03) no. 3 p. 28 - 31

Kind of enterprise: county government. Type of process: peoples information filing. Name of the machine used for the application : IBM 7044; 1460; 1401. Name of the enterprise: County of Alameda; California; USA. Size of enterprise: staff. 160 persons. Particularities of this application : A description of a governmental data center for information about people. Background, way of processing, file use, future plans and its place in existing and proposed governmental information systems is given. More efficient government and increased service should be the result.

201

Warburton,P. A NATIONAL DATA CENTER AND PERSONAL PRIVACY - RESOLUTION PROPOSED; multi-access forum

Computers and automation (Newtonville,Mass.) 16, (1967.05) no. 5 p. 8 (1 pp.)

Presentation of a proposed "Resolution on the National Data Center and Personal Privacy ". The proposal of the foundation of a national data center will provide dangers for the personal privacy of the individual. If such a data center contributes objectively to a greater well-being of the people as a whole it may be justifiable to found it. Nevertheless the burden of proof rests with the proposers of the national data center.

POSTAL AND TELECOMMUNICATION SERVICES

202

DAS WISSEN DER MENSCHHEIT - IMMER FRISCH VON DER DATENBANK

Post 2000; Herausgegeben von Dollinger (Deutsche Bundespost); Redaktion:H.Hackl;p. 120 - 144

München, Verlag"die5 ", GMBH München, 1969, p. 255

In diesem Abschnitt des Buches wird versucht, die Organisation und Funktion einer Datenbank für externe Auskünfte darzustellen, wie sie von der Deutschen Bundespost entwickelt werden kann.

203

POSTAL DATABANK FOR USA ; on statistics of mailvolume, personnel records, income and expenditures.

B 62/449 - a) Postal source data system - management seminar

Washington, Office of ADP Management, Bureau of Finance and Administration, June 1967, (Post Office Dept. publ. 109)

B 17/66 - b) Postal source data system manual; Methods Handbook Series M - 55

Transmittal letter 3, March 3, 1969 (Complete revision of Methods Handbook, Series M - 55)

The Postal Source Data System is designed to expedite the collection of data from remote locations at the source and to forward this data to a centrally located computer complex for processing and dissemination of useful and accurate information to designated areas of the postal service - all in the most economical and timely manner possible.

SCIENCE

204

Dillon,E.L. LARGE SCIENTIFIC DATA FILES

Datamation (New York) 13, (1967.09) no. 9 p. 63 - 66; conference report

Report on the conference in Dallas, July 24 - 26, under the sponsorship of the International Science Information Services in cooperation with Texas Technological Univ., the Council of Scientific Societies and the U.S. Geological Survey, to develop ideas on the efficient handling of very large scientific data files. 110 scientists from the USA and Canada exchanged ideas and panels on communication requirements between data centres and users; on data reduction problems, procedures and coding st.ndards; on software requirements; on hardware requirements. Brief information about performance and results is given in the article.

205

Levien,R.E. and M.E. Maron A COMPUTER SYSTEM FOR INFERENCE EXECUTION AND RETRIEVAL

Communications of the ACM (New York) 10, (1967.11) no. 11 p. 715 - 721

This paper presents a RAND project concerned with the use of computers as assistants in the logical analysis of large collections of factual data. A system called the Relational Data File was developed for this purpose. The Relational Data File is briefly detailed and problems arising from its implementation are discussed.

206

White, R.M. GEOPHYSICAL DATA MANAGEMENT - WHY AND HOW ?

Computers and automation (Newtonville) 18, (1969.04) no. 4 p. 20 - 23

Data management - with all its implications for science and technology - is a spectacularly growing field. In answer to why geophysical management : one needs to consider the cost to the Nation of not having an effective geophysical data system - what it costs when a scientist, engineer or citizen is unable to get the information he needs to continue his research, to design a building, to plan a dam, to make a business decision - and what the cumulative effect of this lack of information may be. The author proposes some standards for designing a Geo Data System. In planning such a system, we must recognize that it will have to change continually to meet shifting and uncertain demands.

URBAN PLANNING

207

Anoniem: INTEGRATED INFORMATION SYSTEM FOR URBAN PLANNING : DESIGN,CONCEPTS, GUIDELINES

PB - 182 309, (1968) aug., 65 p.

The primary purpose of this report is to desribe the concept of the integrated information system for urban planning, which Metroplan intends to install over a five-year comprehensive planning period. The information system described within this report is oriented primarily to metropolitan planning needs but should also be considered a subsystem of a broader total urban information system that will eventually be developed to support a variety of governmental operations as well as both public and private planning research needs. In order to understand the existing urban system and to plan for its future, the urban planner must depend upon vast amounts of information basic to decision making and action. A system is required therefore to provide a central data source and to respond to several factors. These are : 1. provide for the application of the new technologies for data handling and analysis available with the computer 2. interface with the 1970 census which will draw a great deal on computer technology; 3. realize the cost savings inherent in a continuing and regular information assembly system and 4. develop a base of information and analytical capability to support the very real problems of rapid urban change.

208

DATA BANK PROGRAM

Public automation (Chicago) 4, (1968.08) no. 8 p. 5

A program package for establishing and maintaining data banks for city planners has been prepared by METRON of Brigg, Switzerland. The data bank content can be freely chosen within a wide range according to specific needs. Programs can be adapted to local specific situations by control cards.

209

Horwood,E.M. COMPUTER APPLICATIONS TO URBAN PLANNING AND ANALYSIS EXAMPLES AND PROJECTS

Information Processing 68; Proceedings of the IFIP Conference (1968), 2, p. 1040 - 1055

The urban transportation planning process is described and analysed in terms of its automation processes and

as an example of the most advanced area of computer application to the urban planning and analysis field thus far. The major emphasis of the paper relates to new systems for the spatial organisation and retrieval of data for multipurpose urban planning needs. Automatic conversion of street address entity identifiers to Cartesian coordinates, point-in-polygon tests for spatial data retrieval and retrieval via map imaginary are discussed. Ongoing research, development and operational programs to accomplish these goals are reviewed.

PRIVACY AND SECURITY

BIBLIOGRAPHIES

210

Harrison,A. THE PROBLEM OF PRIVACY IN THE COMPUTER AGE

An annotated bibliography; Santa Monica (Calif.) Rand (1967) X. 125 pp.

Memorandum RM - 5495 - PR/RC

This selected bibliography provides an annotated listing of more than 300 publications pertaining to all aspects of the problem of privacy in the computer age. The Memorandum is divided into three sections: Section I is an essay survey of the problem of privacy in the computer age. Section II is the bibliography proper of annotated entries listed alphabetically by author or (if anonymous) by title, numbered alphabetically by tens. Section III is an index of all entries alphabetically listed under one or more of the 14 subject categories (e.g. Data Banks,Legal and Law Enforcement View of Privacy,etc.) with authors, short titles, dates of publication and entry numbers. Since most discussions pertaining to the right to privacy refer to the Bill of Rights, an appendix provides the full text of Amendments I-X of the Constitution.

211

PRIVACY AND EFFICIENT GOVERNMENT: PROPOSALS FOR A NATIONAL DATA CENTER

Harvard Law Review; Boston (Mass.) 82 (1968.12) pp. 400 - 417

212

ON THE PROPER USE OF PRIVATE INFORMATION

Public automation (Chicago) 3, (1967.05) no. 5 p. 1 - 4

U.S. Bureau of the Budget has proposed a Federal Data Bank, processing data of the inhabitants of the USA for various objectives. Realization will increase efficiency in a number of governmental operations. On the other side there will be a real danger for privacy of the individual and this is the reason for these discussions and protests. This article gives a survey of the discussion and the hearings and conferences treating the subject and the suggestions to solve the problems in question.

213

THE COMPUTER AND INVASION OF PRIVACY

Computer digest (Detroit,Mich.) 2, (1967.09) no. 9 p. 9 - 10

After a proposal for the establishment of a central data bank that would centralize data collected by different agencies of the Federal Government, a discussion was made about how the use of the computerized information bank would

impinge on the privacy of the individual. Professor Reich recommended three specific laws to protect the individual.

214

SPECULATIONS ON THE RELATION OF THE COMPUTER TO INDIVIDUAL FREEDOM AND THE RIGHT TO PRIVACY

Computer digest (Detroit,Mich.) 2, (1967.09) no. 9 p. 3 - 4

After some meditations about the place of the computer in the future, its advantages and its attacks on personal freedom and privacy, the author concludes that, as the computer will be an aid to maintain urban society, to protect the individual, to increase information, command and control, the disadvanteges nowadays feared (like lack of privacy) will and must be considered as irrelevant.

215

PROTECTING PEOPLE FROM THE COMPUTER

Trade union leader supports data bank tribunal proposal

Computer news (St,Helier, Jersey) 13, (1969.09) no. 9 2 pp.

In his opening speech at Datafair 69 in Manchester on 25th August, one of the points raised by Mr.Clive Jenkins of the Association of Scientific, Technical and Managerial Staffs, was the growing threat to personal privacy by the computer. He was concerned about the status and the effect upon people from data banks for personal information and was in accordance with the plan to provide legal protection of privacy by means of a Data Bank Tribunal. This article contains the text of that part of Mr. Jenkins speech dealing with this problem.

216

THE NATIONAL DATA BANK - FRIEND OR FOE ?

Business automation (Elmhurst,III.) 14, (1967.01) no. 1 p. 26 - 50

Report of an interview on the need for a statistical data center in the USA, with a budget official and on the other side a congressman. The congressman pleads strongly for the data bank improving the availability of interrelated statistical data for economic and social analysis. The congressman (argues) against the proposal in terms of threats for the basic rights (privacy etc.) being a major problem.

217

Armer,P. PRIVACY ASPECTS OF THE CASHLESS AND CHECKLESS SOCIETY

Testimony before the Senate subcommittee on administrative practice and procedure

Santa Monica, The Rand Corporation, 1968 (april), 19 pp. (Report no. P 3822)

218

Bachi,R. and R. Baron CONFIDENTIALITY PROBLEMS RELATED TO DATA BANKS

IAG quarterly journal (Amsterdam) 2, (1969) no. 3 p. 43 - 68

This study is summarized in a diagram of data bank´s input and output. A more detailed study of the problem is oriented towards some twelve registers, in particular, those relating to population, social security, internal revenue and health. Attention is paid to the problems concerning applications and statistical projects in the field like those conducted in Israel and the study includes various examples of applications in other countries. Also discussed are the practical and ethical problems facing statisticians in their work of collecting data, bearing in mind the intention of minimising the violation of the privacy of the individual and of the company.

219

Bigelow,R.P. SOME LEGAL ASPECTS OF COMMERCIAL REMOTE ACCESS COMPUTER SERVICES

Datamation (1969),no. 8, p. 48 - 52

220

Black,Th.M. DIRECT MAIL DOES NOT INVADE FAMILY PRIVACY; BLACK SAYS

Direct marketing (Garden City,New York 11530) 32, (969) no. 7 (Nov) p. 37 - 41,59

221

Campbell,A. and A. Woods COMPUTERS AND FREEDOM

Law and computer technology; European edition; june 1969, p. 3 - 14

222

Canning Publications,Inc. DATA SECURITY IN THE CDB

EDP analyzer (Vista,Calif.) 8, (1970.05) no. 5 p. 1 - 14

Survey of the problem of data security in the corporate data base (CDB) and some solutions. Bibliography.

223

Davidson,T.A. PROTECTING THE PRIVACY OF COMPUTER INFORMATION

Management review (New York) 58, (1969) no. 11 p. 54 - 58

224

Davidson,T.A. COMPUTER INFORMATION PRIVACY

The office (Philadelphia) 70, (1969) no. 2 (Aug) p. 10 - 12, 14,17

The probable technological,legal and social consequences of storing private data in computer memories. The author reviews the state of the art of information voyeurism and the security measures in existing data systems. Potential areas for programmed and procedural safegards are indicated.

225

Gabrielli,E.R. RIGHT OF PRIVACY AND MEDICAL COMPUTING

Datamation (1970) april, p. 173 - 178

226

Graham,R.M. PROTECTION IN AN INFORMATION PROCESSING UTILITY

Communications of the ACM (New York) 11, (1968.05) no. 5 p. 365 - 369

One of the criterical problems in the design of information processing utility that permits flexible sharing of user information, is privacy. One solution to this problem is discussed.

227

Gallagher,C.E. RECAPTURING DEMOCRACY AND PRIVACY FROM THE COMPUTER

Journal of Data Management (Park Ridge,Hl.) 8, (1970), no. 1 p. 34 - 38

228

Gallagher,C.E. EFFICIENCY - PURCHASED AT THE PRICE OF PRIVACY

Banking (New York) 7 (1968) p. 38 - 39

229

Glaser,E.L. A BRIEF DESCRIPTION OF PRIVACY MEASURES IN THE MULTICS OPERATING SYSTEM

Proceedings 1967 Spring Joint Computer Conference; Atlantic City, April 18 - 20

Washington, Thompson, London, Academic Press, 1967,pp. 303 - 304

230

LORD HALSBURY SPEAKS ON COMPUTER PRIVACY

The computer bulletin (London) 14 (1970) no. 2, pp. 48 - 49

Edited version of a speech by Lord Halsbury, President of the British Computer Society, who spoke in the House of Lords in the debate on computer privacy. In this speech he pleads for no secret information on a computer and a right of print-out for the person to whom the computer records relate.

231

Hoffman,L.J. COMPUTERS AND PRIVACY : A SURVEY

Computer surveys (New York) 1 (1969) no. 2 (June) p. 85 - 103

(subtitle -Survey and editoral journal of the ACM)

The problem of access control and privacy in computer systems is surveyed in terms of existing systems and current proposals. A review of suggested legal and administrative safeguards is given. A partly annotated bibliography of literature in the area is included.

232

Long,E.V. AFLUISTERTECHNIEKEN

Utrecht,Antwerpen, Het Spectrum 1979, 175 pp.

(original title "The intruders" , translated by A.J.Richel)

233

Michael,D.N. SPECULATIONS ON THE RELATION OF THE COMPUTER TO INDIVIDUAL FREEDOM AND THE RIGHT TO PRIVACY

(abstracted from statement by);

Computer digest (1967) sept. p. 3 - 4

234

Mindlin,A. CONFIDENTIALITY AND LOCAL INFORMATION SYSTEMS

Public administration Review 28, (1968.11/12) no. 6, pp. 509 - 518

235

Miller,R.I. COMPUTERS AND THE LAW OF PRIVACY

Datamation (New York) 14, (1968.09) no. 9 p. 49 - 55

The reason that the relationship of the computer to the right of privacy is so profoundly disturbing is that it

is quite dissimilar to the relationship of any other device or technique in the right of privacy. The author considers first the operations of the computer with respect to that concept, secondly, he breifly examines the concept of privacy as it is evolving in American case and statutory law and finally he proposes a few recommendations about how the law may help us to live with the Biggest Brother of all.

236

Miller, A.R. PERSONAL PRIVACY IN THE COMPUTER AGE

Michigan Law Review 67, (1969) no. 6 (April)

237

Namurois,A. BROADCATING AND PRIVACY

(Notes on the invasion of privacy by the broadcasting media and its limits); Part I-II.

EBU Review (Geneva) (1969) no. 116 B and 117 B, pp. 51 - 59 and 50 - 56

238

PRIVACY THREATENED BY MEN NOT COMPUTERS

Computer news (St. Helier, Jersey channel islands), 13, (1969) no. 11 p. 3

Appendix with "Computer abstracts" 13, (1969) no. 11

239

Peters,B. SECURITY CONSIDERATION IN A MULTI-PROGRAMMED COMPUTER SYSTEM

Proceedings of the 1967 Spring Joint Computer Conference. Atlantic City, April 18 - 20

Washington, Thompson, London, Academic Press, 1967, pp. 283 - 286

AFIPS conference proceedings; vol 30.

240

Petersen,H.E. and R. Turn SYSTEM IMPLICATIONS OF INFORMATION PRIVACY

Proceedings of the 1967 Spring Joint Computer Conference; Atlantic City, April 18 - 20

Washington, Thompson, London, Academic Press, 1967, pp. 291 - 300

AFIPS conference proceedings; vol. 30.

241

Sprague,R.E. THE INVASION OF PRIVACY AND A NATIONAL INFORMATION UTILITY FOR INDIVIDUALS

Computers and automation (1970) januari p. 48 - 49

242

Stone,M.G. COMPUTER PRIVACY

London; Anbar (1968) 40 pp. Anbar monograph; no. 13

This monograph explores some of the dangers which may arise from the increasing use of computers for the recording of personal information. The author suggests that a vast computer network could be established almost by accident and could effectively destroy the privacy of every citizen. Data banks will record every event in his life, from birth to death and this information will always be available, virtually instantaneously, to anyone able to intercept the computer´s electronic signals.

243

Tassel, D. van INFORMATION SECURITY IN A COMPUTER ENVIRONMENT

Computers and automation (Washington) 1969, (july) pp. 24 - 25,28

244

Verplanke,C.J. PRIVACY - BESCHERMING EN BEVOLKINGSREGISTER

De Nederlandse gemeente 23, (1969) no. 15 (April) pp. 176 - 177

245

Ware,W.H. SECURITY AND PRIVACY : SIMILARITIES AND DIFFERENCES

Proceedings of the 1967 Spring Joint Computer Conference,; Atlantic City, April 18 - 20

Washington, Thompson, London, Academic Press, 1967, pp. 287 - 290

AFIPS conference proceedings; vol. 30

246

Wasserman, J.J. PLUGGING THE LEAKS IN COMPUTER SECURITY

Harvard business review (Boston) 47, (1969) no. 5 (sept.-oct.) pp. 119 - 129

Quality control; tighter safeguards and new auditing methods make computer systems more reliable.

247

Watterson,L. DATA BANKS CAN PROTECT PRIVACY

Banking (New York) 60, (1968.01) no. 7 p. 56 - 103

The two main questions under discussion are: can the computer guard the information it stores and who should have access to such information. The role of the software is discussed. A proposal to develop a consumer-oriented credit bureau industry is explained.

248

Wilkes,M.V. THE DESIGN OF MULTIPLE - ACCESS COMPUTER SYSTEMS

Computer journal,The (London) 10, (1967.05) no. 1 p. 1 - 9

This paper contains a discussion of some of the problems encountered in the design of a large-scale multiple-access computer system. It is written largely from the point of view of the software programmer, but essential hardware requirements receive attention. Some sections of the paper notably those on the security accorded to confidential information and the protection of the system against unauthorized users, will be of interest to a wider class of readers. There is a section on the new problems involved in the management of a multiple-access computing centre and attention is drawn to the need for developing the rudiments of a science of computer centre management.

249

Westin,A.F. PRIVACY AND FREEDOM

New York, Atheneum, 1967, pp. 487

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